

COOK ISLANDS SMALL YACHT CODE (< 24m in Length)



SMALL YACHT CODE v.3	

SUBJECT:

ISSUE AND REVISION HISTORY

Amendment number	Date	Subject	Description	lssuer

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SMALL YACHTS (< 24 METRES IN LOAD LINE LENGTH)

1.0 INTRODUCTION

The Code has been developed for application to those commercial motor and sailing yachts <24 metres in load line length for which the minimum length requirement has been waived. Cook Islands Maritime Rules recommends compliance for private yachts of this size with the Code to the extent considered reasonable and prudent.

1.1 General

This Code of Practice for Small Yachts (the Code) makes reference to the Maritime Rules of the Cook Islands. Vessels registered on the flag are required to comply with the various Maritime Rules of the Administration that are relevant to the class of vessel to which they belong.

The Code relates especially to the construction of a yacht, its machinery, equipment and stability and to the correct operation of a yacht so that safety standards are maintained.

It will be noted that the Code deals with the equally important subjects of manning and of the qualifications needed for the senior members of the crew.

Compliance with the Code in no way obviates the need for yachts and/or skippers to comply with local authority licensing, permit or regulatory requirements where applicable.

1.2 Insurance

It is a requirement of registration with the Cook Islands that the owner/owner's representative of a yacht should carry Insurance / P&I cover for commercial / charter yachts.

2.0 DEFINITIONS

The following terms are used in the Code for which these definitions apply:

"Administration" means the Cook Islands Maritime Administration and includes a Recognised Organization (RO), an Authorised Surveyor, a radio communications service provider, a marine architect or other entity deemed acceptable to the Administration to represent or act on its behalf with regard to the conduct of specified reviews, surveys and/or issue of certification.

"Annual Survey" means a general or partial examination of the yacht, its machinery, fittings and equipment, as far as can readily be seen, to ascertain that it has been satisfactorily maintained as required by the Code and that the arrangements, fittings and equipment provided are as documented in the Yacht's Safety Certificate.

"Approved" in respect to materials or equipment means approved by the Administration or approved by another administration or an organization that is formally recognised by the Administration;

"Authorised Surveyor" means an independent surveyor who by reason of professional qualifications, practical experience and expertise is Authorised by the Administration to carry out surveys required for yachts;

"Cargo" means an item of value that is carried from one place and discharged at another place and for which either a charge or no charge is made and is not for use exclusively onboard the yacht;

"Classification Society" or "Class" means a ship Classification Society, which the Administration has accepted as a Recognised Organization for the survey and certification of yachts in accordance with the guidelines of IMO Resolution A.739(18);

"Code" means the Maritime Cook Islands Code of Practice for Small Yachts;

"Commercial yacht" means a pleasure yacht engaged in trade, commerce, on charter or carrying passengers for hire that is registered and described in the register and on the Certificate of Registry as a commercial yacht and is not a private yacht;

"Date of expiry" in relation to pyrotechnics and self-activating smoke signals means a date specified by the manufacturer but not later than three years from the date of manufacture of that product;

"Emergency source of electrical power" is a source of electrical power, intended to supply the emergency switchboard in the event of failure of the supply from the main source of electrical power;

"EPIRB" means a satellite emergency position-indicating radio beacon.

"Existing commercial yacht" means any yacht, which is registered and is described in the register and on the Certificate of Registry as a commercial yacht, the keel of which was laid or the construction or lay up was started before 1 January 2010;

"Float-free launching" means that method of launching a life raft or beacon is automatically released from a sinking yacht and is ready for use;

"Freeboard" has the meaning given in Annex I of the ILLC viz. The freeboard assigned is the distance measured vertically downwards amidships from the upper edge of the deck line to the upper edge of the related load line;

"Freeboard deck" has the meaning given in Annex I of the ILLC viz. The freeboard deck is normally the uppermost complete deck exposed to the weather and sea, which has permanent means of closing all openings in the weather part thereof, and below which all openings in the sides of the yacht are fitted with permanent means of watertight closing.

- (a) In a yacht having a discontinuous freeboard deck, the lowest line of the exposed deck and the continuation of that line parallel to the upper part of the deck are taken as the freeboard deck.
- (b) At the option of the owner and subject to the approval of the Administration, a lower deck may be designated as the freeboard deck provided it is a complete and permanent deck continuous in a fore and aft direction at least between the machinery space and peak bulkheads and continuous athwartships.
- (c) When a lower deck is designated as the freeboard deck, that part of the hull which extends above the freeboard deck is treated as a superstructure so far as concerns the application of the conditions of assignment and the calculation of freeboard. It is from this deck that the freeboard is calculated and measured;

"Garbage" means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the yacht and liable to be disposed of continuously or periodically, except sewage originating from yachts;

"Guest" means any person(s) who are not passengers and are on board for a period less that than 16 hours.

"ILLC" means the International Convention on Load Lines, 1966, as amended;

"IMO" means the International Maritime Organization, a specialized agency of the United Nations devoted to maritime affairs;

"Launching appliance" means a provision for safely transferring a lifeboat, rescue boat, life raft or inflated boat respectively, from its stowed position to the water and recovery where applicable;

"Lifeboat" means a lifeboat complying with the requirements of the LSA Code;

"Life buoy" means a life buoy complying with the requirements of the LSA Code;

"Life jacket" means a life jacket complying with the requirements of the LSA Code;

"Life raft" means a life raft complying with the requirements of the LSA Code;

"Load Line Length" means 96% of the total length on the waterline of a yacht at 85% of the least moulded depth measured from the top of the keel, or the length from the fore-side of the stem to the axis of the rudder stock on that waterline, if that be greater. In yachts designed with a rake of keel, the waterline on which this is measured shall be parallel to the designed waterline;



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

"LSA Code" means the Life-Saving Appliances Code;

"Machinery spaces" are all machinery spaces of Category A and all other spaces containing propelling machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces, and trunks to such spaces;

"Machinery spaces of Category N" are those spaces and trunks to such spaces that contain:

- (a) internal combustion machinery used for main propulsion; or
- (b) internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of ≥375 kW; or
- (c) any oil fired boiler or oil fuel unit;

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

"Main source of electrical power" is a source intended to supply electrical power to the main switchboard for distribution to all services necessary for maintaining the yacht in normal operational and habitable condition;

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

"Main switchboard" is a switchboard that is directly supplied by the main source of electrical power and is intended to distribute electrical energy to the yacht's services;

"Maritime Cook Islands" means Maritime Cook Islands, the Corporate Administrators of the Cook Islands Ships Registry. Maritime Cook Islands administer all matters pertaining to vessels entitled to fly the Cook Islands Flag and/or that are subject to the provisions of the Cook Islands Ship Registration Act 2007 and the Cook Islands Maritime Transport Act 2008, as amended.

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

"Maritime Rules" means the Cook Islands Maritime Rules as made by the Cook Islands Minister of Transport;

"Mile" means a nautical mile of 1852 metres;

"Multihull yacht" means any yacht that in any normally achievable operating trim or heel angle has a rigid hull structure, which penetrates the surface of the sea over more than one (1) separate or discrete area;

"New yacht" means a yacht to which this Code applies, the keel of which was laid or the construction or lay up was started on or after 1 June 2001;

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

"Owner(s) or managing agent(s)" means the registered owner(s) or the managing agent(s) of the registered owner(s) as the case may be;

"Passenger ship" means a vessel carrying more than 12 passengers;

"Person" means a person over the age of one (1) year;

"Private Yacht" means any pleasure yacht not on charter or carrying passengers for hire, not engaged in trade or commerce, and being used solely for the pleasure or recreational purposes of its owner. More specifically, to be considered a private yacht, the yacht is:

(a) in the case of a yacht owned by a corporate entity, one on which the persons on the yacht are employees, officers or shareholders (including beneficial owners) of the corporate entity, or their immediate family or friends; or

- (b) in the case of a trust or other ownership arrangement, one on which the persons on board the yacht are beneficiaries under the trust or beneficial owners of the ownership arrangement, or their immediate family or friends; or
- (c) one on which persons other than those referenced in (a) or (b) above are specifically authorised by the owner to use the yacht for specified periods of time; and
- (d) in private use;

"Private Use" means that the yacht is used on a private voyage or excursion, and during such use is not engaged in trade by transporting merchandise or carrying passengers for reward or remuneration (other than as a contribution to the actual cost of the yacht or its operation for the period of the voyage or excursion) or gain, and is not offered for commercial charter operations or for public use;

"Position 1" means upon exposed freeboard and raised quarter decks and upon exposed superstructure decks situated forward of a point located a quarter of the yacht's length from the forward perpendicular;

"Position 2" means upon exposed superstructure decks situated abaft a quarter of the yacht's length from the forward perpendicular;

"Radar transponder" means a radio responding device designed for use in survival craft to facilitate location of survival craft in search and rescue operations;

"Recognised Organization" means Classification Society, which the Administration has accepted as being compliant with the guidelines of IMO Resolution A.739(18);

"Safe haven" means a harbor or shelter of any kind that affords entry, subject to prudence in the weather conditions prevailing, and protection from the force of the weather;

"Sailing yacht" means a pleasure yacht designed to carry sail, whether as a sole means of propulsion or as a supplementary means;

"Side scuttle" means an ISO standardized type of an opening hinged or non-opening round ship's window with or without deadlight (ISO 6345:1990);

"SOLAS" means the International Convention for the Safety of Life at Sea, 1974, and the 1988 Protocol, as amended;

"Survey" means an examination / inspection by an Authorised Surveyor, to ascertain that the yacht's structure, machinery, equipment and fittings are in compliance (as appropriate to the specific survey conducted) with the requirements of the Code.

"Survival craft" means a craft capable of accommodating persons in distress from the time of abandoning the yacht;

"Two-way VHF radiotelephone set" means a portable or a fixed VHF installation for survival craft complying with the performance adopted by the IMO contained in IMO Resolution A.762(18) or

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any Resolution amending or replacing it from time to time which is considered by the Administration to be relevant;

"Voyage" includes an excursion;

"Waterproof" means protected as far as is practicable from the ingress of water;

"Watertight" means capable of preventing the passage of water in any direction;

"Weather deck" means the uppermost complete weathertight deck fitted as an integral part of the yacht's structure and which is exposed to the sea and weather;

"Weathertight" has the meaning given in Annex I of ILLC viz. Weathertight means that in any sea conditions water will not penetrate into the yacht;

"Wheelhouse" means the control position occupied by the officer of the watch who is responsible for the safe navigation of the yacht; and

"Window" means a ship's window, being any window, regardless of shape, suitable for installation aboard yachts (ISO 6345:1990).

3.0 APPLICATION and INTERPRETATION

3.1 Application

3.1.1 Small Yachts

- .1 The Code will be applied to Cook Islands commercially operated motor or sailing yacht of <24 metres load line length that proceeds to sea, does not carry cargo and does not carry more than 12 passengers. It may be applied to any Cook Islands privately operated yacht.
- .2 When a motor yacht is provided with a sailing rig, this vessel will be called a sail-assisted motor yacht. This type of yacht will follow the requirements of the Code referring to *Sailing* Yachts.

3.1.2 Hull types

The Code applies to monohull and multihull yachts.

3.1.3 Effective Date

The Code is effective as of TBA

3.1.4 Responsibility

It is the responsibility of the owner/owner's representative to ensure that a yacht is properly maintained, surveyed and inspected in accordance with the Code.

3.2 Operational Limitations

.1 Subject to the size, suitability for intended use and degree of compliance with the Code, a yacht may be considered for the issue of a certificate of registry allowing it to operate under one of the following limits:

Inshore Limit	- up to 20 nautical miles from coastline
Coastal Limit	- up to 60 nautical miles from coastline
Offshore Limit	- up to 150 nautical miles from coastline
Unlimited	- beyond offshore limits

.2 . All limitations or restrictions will be recorded on the Safety Certificate.

3.3 Equivalent Standards, Exemptions and Existing Yachts

3.3.1 Equivalent standards

The Administration may consider a specific alternative equivalent standard to any standard required by the Code, provided that the proposed standard, code of practice, specification or technical description provides the equivalent level of safety, suitability and fitness for purpose. Annex1 provides guidelines on the assessment of variations to the standards applied by the Code. Proposals for the application of alternative standards considered to be at least equivalent to the requirements of the Code should be submitted to the Administration for review and recommendation of approval by the Administration. Equivalence may be achieved by incorporating increased requirements, such as limited areas of operation, to balance deficiencies and thereby achieve the overall safety standard desired.

3.3.2 Exemptions

- .1 Exemptions are only authorised and issued by the Administration.
- .2 Applications for exemption should be made to the Administration and be supported by justification for the exemption.
- .3 The granting of exemptions will be limited by the extent to which international conventions and the Safety Code allows and should be regarded as the exception and not the rule.

3.3.3 Existing yachts

- .1 In the case of an existing yacht which does not comply fully with the Code safety standards but for which the Code standards are reasonable and practicable, the Administration may give consideration to a proposal from the owner(s) or managing agent(s) to phase in requirements within an agreed time frame.
- .2 When an existing yacht 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 Administration for approval. In considering individual cases, the Administration will take into account the yacht's service and blands.

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history and any other factors that are judged to be relevant to the safety standard which can be achieved.

.3 Generally, repairs, alterations and refurbishments should comply with the standards applicable to a new yacht.

3.4 Review and Revision of the Code

The requirements of the Code will be reviewed and revised when necessary by Maritime Cook Islands, and all interested parties will be advised. The latest revision will always be available on the Administration's website. Questions, comments and observations should be addressed to Maritime Cook Islands.

3.5 Simplified Tonnage Measurement Method

A simplified method of measurement provided in Annex 2 may be used, if required, for commercial yachts <24 metres in length and private yachts.

4.0 SURVEY, CERTIFICATION, INSPECTION and MAINTENANCE

4.1 Requirements for Yachts to be Surveyed and Certificated

- .1 An existing yacht is required to be surveyed, documented and certificated by the date of permanent registration.
- .2 The owner/owner's representative of a commercial yacht to be operated under the Code, should arrange with the Administration for an appropriate survey to be performed by an Authorised Surveyor. A private yacht may be surveyed by a Cook Islands authorised surveyor at the owner/owner's representative's request.

Private Yacht Survey Requirements

- 1. All Yachts registered on the Cook Islands' Register are required to carry a Yacht Safety Certificate.
- 2. The Yacht Safety Certificate can only be issued on completion of a survey or inspection.
- 3. Private Yachts

a). Monohull <16m the survey form can be completed by a competent person, which can include the owner provided the form is returned with photographs confirming the condition of the items inspected.

b). Multihull ≥10m – the survey must be completed by a Cook Islands surveyors

- 4. Private Yachts <24m and registered for 3 years do not need annual or intermediate surveys.
- 5. Private Yachts <24 m and registered for 5 years must have an intermediate inspection between the second and third anniversary of the issue of the Yacht Safety Certificate.

4.2 Issue of a Yacht Safety Certificate under the Code

- 4.2.1 Upon satisfactory completion and documentation of the survey and the owner or managing agent's declarations, a copy of the report should be forwarded to the Administration.
- 4.2.2 Yachts of ≥16 metres in length, or carrying 15 or more persons, or a motor yacht operating beyond the inshore limit shall comply with 12.2:1.
- 4.2.3 A certificate will be valid for a maximum of five years.

4.3 <u>Surveys</u>

4.3.1 Survey for renewal of a Vessel Safety Certificate

The owner/owner's representative should arrange for Survey to be carried out. (Refer to 4.1.2) Upon satisfactory completion of the survey a copy of the report should be sent to the Administration.

4.3.2 Commercial Yachts

Annual surveys should be arranged by the owner/owner's representative to be carried out by a Cook Islands Authorised Surveyor once a year, at intervals not exceeding a maximum of 15 months. On satisfactory completion of the annual survey, the Authorised Surveyor should endorse the Safety certificate and report the results of the survey to the Administration.

4.3.3 Private Yachts

4.3.3.1 Annual safety inspections by the owner/owner's representative

- .1 The owner/owner's representative should carry out a self-assessment or arrange for a safety inspection of a yacht, once a year by the anniversary date of the Safety certificate to confirm that the arrangements, fittings, equipment are in a satisfactory and well maintained condition and remain as documented in the original or latest revision of the Safety Certificate record.
- .2 If the inspection reveals that either the yacht, its machinery, fittings or equipment are not sound or they do not comply with those documented in the original or latest revision of the Safety Certificate record should be reported within 7 days to the Administration.

4.4 Operation and Maintenance of the Yacht

- .1 The Administration may survey a certificated yacht at any time.
- .2 It is the responsibility of the owner/owner's representative to ensure that at all times a yacht is operated and maintained in accordance with the requirements of the Code. If for any reason the yacht does not comply with any of these requirements, the owner/owner's representative should notify the Administration.
- .3 If a yacht suffers a collision, grounding, fire or other event that causes major damage or injury, the owner/owner's representative must notify the Administration.
- .4 The nature and extent of major repairs should be subject to the approval of the Administration.

5.0 CONSTRUCTION and STRENGTH

5.1 General Requirements

- .1 A yacht for which the area of operation is more than 20 nautical miles from a safe haven should be fitted with a watertight weather deck over the length of the yacht and be of adequate structural strength to withstand the sea and weather conditions likely to be encountered in the intended area of operation.
- .2 A yacht that is not fitted with a watertight weather deck in accordance with 5.1.1 will be restricted to inshore limits (up to 20 nautical miles from shore).
- .3 A yacht which is an open boat should be restricted to inshore or enclosed waters as applicable to its location of operation acceptable to the Administration. It shall be provided with adequate reserves of buoyancy and stability for the yacht with its full complement of persons to survive the consequences of swamping.

5.2 Structural Strength

5.2.1 General

The design of hull structure and construction should provide strength and service life for the safe operation of a yacht, at its service draught and maximum service speed, to withstand the sea and weather conditions likely to be encountered in the intended area of operation.

5.2.2 Construction materials

- .1 A yacht may be constructed of wood, glass reinforced plastic (GRP), aluminium alloy, steel or combinations of such materials.
- .2 Proposals to use any other material should be submitted for consideration and approval by Maritime Cook Islands.

5.2.3 New yachts

- .1 The hull of a new yacht which has been surveyed and certificated by a Classification Society should be acceptable, subject to presentation of a certificate of construction / Builder's Certificate.
- .2 See Section 27.1, for a listing of recognised Classification Societies.
- .3 A new yacht which has not been built under the survey of a Classification Society will be considered to be of adequate strength after a satisfactory examination by an authorised Surveyor and if it has been built:
 - (a) in accordance with the hull certification standards for small yacht craft, set by one (1) of the Classification Societies; or
 - (b) in general accord with the standard of a yacht that has a satisfactory record of safe operation in an area where the sea and weather conditions are no less severe than those likely to be encountered in the intended area of operation.

.4 A new yacht not built in accordance with either 5.2.3.1 or 5.2.3.3 may be specially considered, provided that full information (including calculations, drawings, details of materials and construction) is provided to and approved by the Administration.

5.2.4 Existing yachts

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

- .1 built to one (1) of the standards described in 4.2.3, for new yachts; or
- .2 of a design with a satisfactory record of safe operation in an area where the sea and weather conditions are no less severe than those likely to be encountered in the intended area of operation.

5.3 Decks

5.3.1 Weather deck

- .1 A watertight weather deck referred to in 5.1.1 should extend from stem to stern and have positive freeboard throughout, in any condition of loading of the yacht. Minimum requirements for freeboard are given in Section 13.
- .2 A weather deck may be stepped, recessed or raised provided the stepped, recessed or raised portion is of watertight construction.

5.3.2 Recesses

5.3.2.1 Motor yachts

A recess in the weather deck should be of watertight construction and have means of drainage capable of efficient operation when the yacht is heeled to 10 degrees, such drainage to have an effective area, excluding grills and baffles, of at least 20cm² for each cubic meter of volume of recess below the weather deck.

5.3.2.2 Sailing yachts

A recess in the weather deck should be of watertight construction and have:

.1 a volume (V_c) that does not exceed the value obtained from the following formula:

V_c = 0.10 x length of yacht x breadth of yacht x freeboard abreast the recess (or cockpit);

.2 means of drainage capable of efficient operation when the yacht is heeled to 30 degrees, such drainage to have an effective area, excluding grills and baffles, of at least 10cm² for a yacht operating offshore and of at least 20cm² for a yacht operating unlimited.

5.3.2.3 All yachts

- .1 Alternative arrangements for drainage of a recess may be accepted provided it can be demonstrated that, with the yacht upright and at its deepest draught, the recess drains from a swamped condition within three (3) minutes.
- .2 If a recess is provided with a locker that gives direct access to the interior of the hull, the locker should be fitted with weathertight cover(s). In addition the cover(s) to the locker should be permanently attached to the yacht's structure and fitted with efficient locking devices to secure the cover(s) in the closed position.

5.3.2.4 General Arrangements

For water freeing arrangements generally, see Section 7.

5.4 Watertight Bulkheads and Damage Survival

5.4.1 New monohull yachts

When a new monohull yacht is \geq 15 metres in length, or is intended to carry 15 or more <u>persons</u>, or is a motor yacht intended to operate unlimited, watertight bulkheads should be fitted in accordance with the following requirements, except that consideration will be given to the continued acceptance of an existing design which does not meet the requirements in full but is part of a building program in progress at the time when the Code comes into force for new yachts.

.1 Watertight bulkheads should be so arranged that minor hull damage which results in the free flooding of any one (1) compartment, will not cause the yacht 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 yacht but not on a watertight bulkhead. Standard permeabilities should be used in this assessment as follows:

<u>Space</u>	<u>Permeability %</u>
Appropriated for stores	60
Appropriated for stores but not by a substantial quantity thereof	95
Appropriated for accommodation	95
Appropriated for machinery	85
Appropriated for liquids	0 or 95 whichever results in the more onerous requirement

- .2 In the damaged condition, the residual stability should be such that the angle of equilibrium does not exceed seven (7) degrees from the upright, the resulting righting lever curve has a range to the down flooding angle of at least 15 degrees 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 meter radians.
- .3 The strength of a watertight bulkhead should be adequate for the intended purpose and to the satisfaction of the Administration.
- .4 When pipes, cables, etc. penetrate watertight bulkheads, they should be provided with valves and/or watertight glands as appropriate.
- .5 A doorway fitted in watertight bulkhead should be of watertight construction and be kept closed at sea, unless opened at the discretion of the skipper.

5.4.2 New multihull yachts

5.4.2.1 Motor yachts

.1 Generally, the requirements of 5.4.1 for a new monohull yacht should apply to a new multihull yacht of ≥15 metres in length or intended to carry 15 or more persons or operate unlimited.

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.2 If a multihull yacht does not meet the damage criteria given in 5.4.1.1 and 5.4.1.2, the results of the calculations should be submitted to Maritime Cook Islands for assessment.

5.4.2.2 Sailing yachts

- .1 A new multihull yacht should be so designed that it will float for more than 12 hours after capsizing, either when any two (2) hatches are open, or when any one (1) hull is holed between watertight bulkheads. This requirement may be met by subdivision or built-in flotation, but may not include the effect of air trapped in any compartment that is open to the sea.
- .2 Compliance with this requirement should be demonstrated by calculation for the maximum displacement condition (as defined in paragraph 11.5.1), which should show minimum reserve buoyancy in the capsized condition of 25% of the displacement.
- .3 When flotation material is used, it should be adequately protected from accidental damage. When an air tank is used for flotation, it should be clearly marked:

"AIR TANK - DO NOT PUNCTURE"

and should be provided with means of draining and checking for freedom from water.

.4 When an intact compartment which is used to demonstrate positive flotation after capsize is penetrated by a door or hatch, the door or hatch should be of watertight construction, and should be clearly marked on both sides:

"WATERTIGHT ACCESS - KEEP CLOSED WHEN AT SEA"

5.4.3 Existing yachts

In the case of an existing yacht which is of \geq 15 metres in length, or is intended to carry 15 or more persons, or is a motor yacht intended to operate unlimited, it is most strongly recommended that modifications, which cause the yacht to meet the standard given by 5.4.1 for a monohull or 5.4.2 for a multihull, be implemented when the yacht undergoes major structural alterations.

6.0 WEATHERTIGHT INTEGRITY

A yacht should be designed and constructed in a manner that will prevent the ready ingress of seawater and in particular comply with the following requirements:

6.1 Hatchways and Hatches

6.1.1 General requirements

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

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

6.1.2 Hatchways that are open at sea

In general, hatches should be kept closed at sea. However, a hatch (other than one referred to in 6.2.2 below) that is to be open at sea for lengthy periods should be:

- .1 kept as small as practicable, but never more than 1m² in plane area at the top of the coaming;
- .2 located on the centreline of the yacht or as close thereto as practicable;
- .3 fitted such that the access opening is at least 300mm above the top of the adjacent weather deck at side.

6.2 Doorways and Companionways

6.2.1 Doorways located above the weather deck

- .1 A doorway located above the weather deck that gives access to spaces below should be provided with a weather tight 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 either side.
- .2 A doorway should be located as close as practicable to the centreline of the yacht. However, if hinged and located in the side of a house, the door should be hinged on the forward edge.
- .3 A doorway that is either forward or side facing should be provided with a coaming the top of which is at least 300mm above the weather deck. A coaming may be portable provided it is permanently secured to the structure of the yacht and can be locked in position.

6.2.2 Companion hatch openings

- .1 A companion hatch opening from a cockpit or recess which gives access to spaces below the weather deck should be fitted with a coaming, the top of which is at least 300mm above the sole of the cockpit or recess.
- .2 When washboards are used to close a vertical opening they should be so arranged and fitted that they will not become dislodged in any event.
- .3 The maximum breadth of the opening of a companion hatch should not exceed one (1) meter.

6.3 <u>Skylights</u>

.1 A skylight should be of efficient weathertight construction and should be located on the centerline of the yacht, or as near thereto as practicable, unless it is required to provide a means of escape from a compartment below deck.

- .2 When a skylight is an opening type it should be provided with efficient means whereby it can be secured in the closed position.
- .3 In a new yacht, a skylight that is provided as a means of escape should be capable of being opened from either side.

.4 Unless the glazing material and its method of fixing in the frame is equivalent in strength to that required for the structure in which it is fitted, a portable "blank" should be provided which can be efficiently secured in place in event of breakage of the glazing.

6.4 <u>Portlights</u>

- .1 A portlight to a space below the weather deck or in a step, recess, raised deck structure, deckhouse or superstructure protecting openings leading below the weather deck should be of efficient construction.
- .2 In a new yacht, a portlight should not be fitted in the main hull below the weather deck, unless the glazing material and its method of fixing in the frame are equivalent in strength to that required for the structure in which it is fitted.
- .3 In a new yacht, an opening portlight should not be provided to a space situated below the weather deck.
- .4 In an existing yacht, a portlight fitted below the weather deck and not provided with an attached deadlight should be provided with a "blank" (at the rate of 50% for each size of portlight in the yacht), which can be efficiently secured in place in the event of breakage of the portlight. Such a "blank", however, is not required for a non-opening portlight that satisfies 6.4.2.
- .5 An opening portlight should not exceed 250mm in diameter or equivalent area.

6.5 Windows

- .1 When a window is fitted in the main hull below the weather deck, it should provide watertight integrity and be of strength compatible with size for the intended area of operation of the yacht.
- .2 In a new yacht, a window should not be fitted in the main hull below the weather deck, unless the glazing material and its method of fixing in the frame are equivalent in strength to that required for the structure in which it is fitted.
- .3 A window fitted to a space above the weather deck or in the side of a cockpit or recess should be of efficient weathertight construction.
- .4 In a yacht that operates more than 60 miles offshore, portable "blanks" should be provided at the rate of 50% for each size of window, which can be efficiently secured in place in the event of breakage of a window. Such a "blank", however, is not required for a window that meets the requirements of 6.5.2 above.

6.6 Ventilators and Exhausts

.1 A ventilator should be of efficient construction and be provided with a permanently attached means of weathertight closure.

.2 A ventilator should be kept as far inboard as practicable and the height above the deck of the ventilator opening should be sufficient to prevent the ready admission of water when the yacht is heeled.

.3 A ventilator that must be kept open, e.g., for the supply of air to machinery or for the discharge of noxious or flammable gases, should be specially considered with respect to its location and height above deck having regard to 6.3.2 above and the down flooding angle.

.4 An engine exhaust outlet that 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 that can be applied readily in an emergency.

6.7 Air Pipes

- .1 When located on the weather deck, an air pipe should be kept as far inboard as possible and have a height above deck sufficient to prevent inadvertent flooding when the yacht is heeled.
- .2 An air pipe of greater than I0mm inside diameter, serving a fuel or other tank, should be provided with a permanently attached means of weathertight closure.

6.8 Sea Inlets and Discharges

- .1 An opening below the weather deck should be provided with an efficient means of closure.
- .2 When an opening is for the purpose of an inlet or discharge below the waterline it should be fitted with a seacock, valve or other effective means of closure that is readily accessible in an emergency.
- .3 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.
- .4 Inlet and discharge pipes from water closets should be looped up within the hull to the underside of deck and shell fittings provided as required by 6.8.2 above. When the rim of a toilet is either below **or** less than 300mm above the deepest waterline of the yacht, anti-siphon measures should be provided.

6.9 Materials for Valves and Associated Piping

- .1 A valve or similar fitting attached to the side of the yacht below the waterline, within an engine space or other high fire risk area, should be normally of steel, bronze, copper or other equivalent material.
- .2 When unprotected plastic piping is used it should be of good quality and of a type suitable for the intended purpose. If 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.

7.0 WATER FREEING ARRANGEMENTS

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

7.1 Motor yachts

- .1 The area of 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.
- .2 A yacht of <12 metres in length, if accepted for registration, having a well deck aft that is fitted with bulwarks all round and that is intended to operate only in favourable weather and no more than 60 miles from a safe haven, should be provided with freeing ports required by 7.1.1 or may be provided with a minimum of two (2) ports fitted (one (1) port and one (1) starboard) in the transom, each having a clear area of at least 225 sq. cm.

7.2 Sailing yachts

- .1 The area of freeing ports should be at least 10% of that part of the bulwark area that extends for 1/3 of the yacht's length amidships. A freeing port should be located in the lower third of the bulwark height, as close to the deck as practicable.
- .2 A freeing port should be fitted with a grid that has a spacing of not more than 50mm in each direction.

7.3 All yachts

- .1 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.
- .2 When a yacht 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 that is likely to become trapped.
- .3 In a yacht when freeing ports cannot be fitted, other efficient means of clearing trapped water from the yacht should be provided to the satisfaction of the Administration.
- .4 Structures and spaces considered to be non-weathertight should be provided with efficient drainage arrangements.

8.0 MACHINERY

8.1 General Requirement

.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 Administration.

- .2 In the particular case of a proposal to install an inboard fuel engine in a new yacht, full information should be presented to the Administration for approval.
- .3 The main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of a *sailing yacht* should be designed to operate when the *sailing yacht* is upright and when inclined at any angle of heel up to and including 15 degrees either way under static conditions and 22.5 degrees either way under dynamic rolling conditions and simultaneously inclined 7.5 degrees by bow or stern under dynamic pitching conditions.

8.2 Diesel engines

A yacht fitted with an inboard engine should be provided with a suitable diesel engine and sufficient fuel tankage for its intended area of operation.

8.3 Gasoline engines

- .1 In a sailing yacht, or in a motor yacht that is fitted with a watertight weather deck, a gasoline engine may be accepted provided that the engine is a suitable outboard type and a fuel tank is fitted whereby either the tank or the complete contents can be jettisoned rapidly and safely and when spillage during fuel handling will drain directly overboard.
- .2 In a motor yacht that is an open boat and restricted to operating inshore, a gasoline engine may be accepted provided that the engine is a suitable outboard type. Gasoline should be stored in portable containers that can be jettisoned readily, or in a rigid hull motor yacht or rigid inflatable boat, a fixed-in-place inboard tank may be accepted subject to:
 - (a) the tank being constructed of steel, with rounded corners and edges for explosion proofing purposes, located in a safe place and installation complying with Section 8.4;
 - (b) Note:
 - (1) Explosafe foils should not be used in a steel tank.
 - (2) The tank should be tested to at least 0.3 bar.
 - (c) an intrinsically safe detector of hydrocarbon gas being fitted under or adjacent to the tank (located in a safe place) when the possibility of accumulation of hydrocarbon vapors exists;
 - (d) the opening of the vent pipe from the fuel tank being protected by a flash proof fitting; and
 - (e) electrical arrangements complying with Section 9.
- .3 In an existing yacht only, an inboard gasoline engine may be accepted provided that the engine is located in an efficient enclosed space to which a fixed fire extinguishing system is fitted, and:
 - (a) provision is made to ventilate the engine space thoroughly before the engine is started and

- (b) the vent pipe from the fuel tank is led to the open deck and the opening protected by a flash proof fitting.
- .4 In an existing yacht, a fixed-in-place inboard fuel tank should meet the requirements of 8.3.2(b), 8.3.2(c) and 8.3.2(d).
- .5 In an existing yacht, gasoline stored in portable tanks or containers should meet the requirements of 8.3.1 or 8.3.2 as appropriate.
- .6 In an existing inflatable boat or rigid inflatable boat, a gasoline engine installation should meet the requirements of 8.3.2.

8.4 Installation

- .1 The machinery, fuel tank(s) 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 danger to persons during normal movement about the yacht, due regard being paid to moving parts, hot surfaces and other hazards.
- .2 Means should be provided to isolate a source of fuel that may feed a fire in an engine space fire situation. A value 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.
- .3 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.
- .4 In the case of an existing yacht 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.

8.5 Engine Starting

- .1 An engine should be provided with either mechanical or hand starting or electric starting with independent batteries.
- .2 When the sole means of starting is by battery, the battery should be in duplicate and connected to the starter motor via a 'change over switch' so that either battery can be used for starting the engine. Charging facilities for the batteries should be available.

8.6 Portable Generators

.1 When a portable generator, powered by a fuel engine is provided, the unit should be stored on the weather deck.

- .2 A deck locker or protective enclosure for the portable generator should have no opening(s) to an enclosed space within the hull of the yacht, and the locker or protective enclosure should be adequately ventilated and drained.
- .3 Fuel provided for the engine should be stored in portable containers or tanks and meet the requirements of Section 8.7.

8.7 Stowage of Gasoline

When gasoline in portable containers for use in an outboard engine of a tender (dinghy) is unavoidably carried on board, the containers should be clearly marked and should be stowed on the weather deck where they can readily be jettisoned and where spillage will drain directly overboard. The quantity of gasoline and number of portable containers should be kept to a minimum. (Requirements for the storage of gasoline for propulsion engines of a yacht are given in Section 8.3.)

9.0 ELECTRICAL ARRANGEMENTS

- .1 Electrical arrangements should be such as to minimize risk of fire and electric shock.
- .2 Particular attention should be paid to the provision of overload and short circuit protection of all circuits, except engine starting circuits supplied from batteries.
- .3 When general lighting within a yacht is provided by a centralized electrical system, an alternative source of lighting should be provided, sufficient to enable persons to make their way to the open deck and to permit work on essential machinery.
- .4 Batteries and battery systems should be provided as indicated in paragraphs 8.5.1, 8.5.2 and 17.1.5.
- .5 Ventilation of a battery storage space to the open air should be provided, to release the accumulation of gas that is emitted from batteries of all types.

10.0 STEERING GEAR

- .1 A yacht should be provided with efficient means of steering.
- .2 The control position should be located so that the person conning the yacht has a clear view for the safe navigation of the yacht.
- .3 When a steering gear is fitted with remote control, arrangements should be made for emergency steering in the event of failure of the control. Arrangements may take the form of a tiller to fit the head of the rudder stock.

11.0 BILGE PUMPING

11.1 Yachts of 15 metres in Length, or Carrying 15 or More Persons, or a Motor Yacht Operating in The Offshore and Unlimited Areas

- .1 A yacht should have an efficient bilge pumping system consisting of at least one (1) hand bilge pump and one (1) engine driven or independent power bilge pump, with suction pipes so arranged that any compartment can be drained when the yacht is heeled up to an angle of 10 degrees. Pumps provided should be situated in not less than two (2) separate spaces.
- .2 When considered necessary to protect the bilge suction line from obstruction, an efficient strum box should be provided.
- .3 Portable semi-submersible bilge pumps may be considered as an alternative to one (1) of the two (2) required pumps.
- .4 Other means of providing efficient bilge pumping may be considered provided that full information is submitted to and approved by the Administration.

11.2 Bilge Alarm

- .1 When propulsion machinery is fitted in an enclosed watertight compartment, a bilge level alarm should be fitted.
- .2 The alarm should provide an audible warning at the control position.

12.0 INTACT STABILITY

12.1 New Motor Yacht

12.1.1 General

The standard of stability to be achieved by a new motor yacht should be dependent on its length, maximum number of persons permitted to be carried and intended area of operation.

- .1 A motor yacht of ≥15 metres in length or carrying 15 or more persons or operating in unlimited, is required to be provided with stability information which is approved by the Administration and kept on board the yacht.
- .2 A motor yacht of <15 metres in length and carrying 14 or less persons and operating in up to 60' offshore is subject to a simplified assessment of stability and is not required to be provided with approved stability information.
- .3 If a motor yacht of multihull type does not meet the stability criteria given below, the calculations should be submitted to the Administration of the Administration for assessment.
- .4 A motor yacht of unusual form and/or arrangement should be specially considered by the Administration.
12.1.2 New motor yachts of ≥15 metres in length or carrying 15 or more persons or operating offshore or unlimited

- .1 The lightship weight, vertical center of gravity (KG) and longitudinal centre of gravity (LCG) of a monohull motor yacht should be determined from the results of an inclining experiment witnessed by an Administration.
- .2 The lightship particulars of a multihull motor yacht should be obtained by a weighing to determine the lightship weight and longitudinal centre of gravity (LCG) and either a careful calculation or an inclining in air to determine vertical centre of gravity (KG).
- .3 The lightship weight should be increased by a margin for growth, which need not exceed 5% of the lightship weight, positioned at the LCG and vertical centre of the weather deck amidships or KG, whichever is the higher.
- .4 Curves of static stability (GZ curves) should be produced for:

Loaded departure,100% consumables; andLoaded arrival,10% consumables.

- .5 Buoyant structures intended to increase the range of positive stability should not be provided by fixtures to superstructures, masts or rigging.
- .6 The curves of static stability for the loaded conditions should meet the following criteria:
 - (a) The area under the righting lever curve (GZ curve) should be not less than 0.055 meterradians up to 30 degrees angle of heel and not less than 0.09 meter-radians up to 40 degrees angle of heel or the angle of down flooding if this angle is less; and
 - (b) the area under the GZ curve between the angles of heel of 30 and 40 degrees or between 30 degrees and the angle of down flooding if this is less than 40 degrees, should be not less than 0.03 meter-radians.
 - (c) The righting lever (GZ) should be at least 0.20 metres at an angle of heel equal to or greater than 30 degrees.
 - (d) The maximum GZ should occur at an angle of heel of not less than 25 degrees.
 - (e) After correction for free surface effects, the initial metacentric height (GM) should not be less than 0.35 metres.

12.1.3 New motor yachts of < 15 metres in length and carrying 14 or less persons and operating up to 150 nm offshore

.1 A motor yacht 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 that results when all persons, which the yacht is to be certificated to carry, are assembled along one side of the yacht. The helmsman may be assumed to be at the helm. Each person may be substituted by a mass of 75kg for the purpose of the test.

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

- (a) that the angle of heel does not exceed seven (7) degrees; and
- (b) that in the case of a yacht with a watertight weather deck extending from stem to stern, as described in 5.1.1, the freeboard to the deck is not less than 75mm at any point.
- .2 It should be demonstrated by test or by calculation that an open boat, when fully swamped, is capable of supporting its full outfit of equipment, the total number of persons for which it is to be certificated and a mass equivalent to its engine and full tank of fuel.

12.2 Existing Motor Yachts

12.2.1 General

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

12.2.2 Existing motor yachts operating offshore or unlimited

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

12.2.3 Existing motor yachts operating up to 60nm offshore

- .1 Generally, a motor yacht should be treated as if it is a new motor yacht.
- .2 It should be demonstrated by test or by calculation that an open boat, when fully swamped, is capable of supporting its full outfit of equipment, the total number of persons for which it is to be certificated and a mass equivalent to its engine and full tank of fuel.
- .3 When a motor yacht fails to meet the standards applied to a new motor yacht, a lesser standard may be accepted by the Administration, provided that the yacht has a satisfactory record of safe operation in the intended area of operation.
- .4 A motor yacht for which the intended area of operation is not more than 150nm offshore should be provided with stability information which is approved and relevant to the yacht in its present condition

12.3 New Monohull Sailing Yachts

The standard of stability to be achieved by a new sailing yacht will be dependent upon its length.

12.3.1 Sailing Yachts

.1 The centre of gravity (KG) of a yacht should be established by an inclining experiment and a curve of static stability (GZ curve) for the loaded departure with 100% consumables should be produced.

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Notes:

- (a) The above condition may include a margin for growth not exceeding 5% of the lightweight with the VCG positioned at the upper deck amidships.
- (b) Buoyant structures intended to increase the range of positive stability should not be provided by fixtures to either a mast or rigging.
- .2 The GZ curve required by 12.3.1.1 should have a positive range of not less than the angle determined by the formula in the table in 12.3.2.6.
- .3 In addition to the requirements of 12.3.1.2, the angle of steady heel obtained from the intersection of a "derived wind heeling lever" curve with the GZ curve referred to in 12.3.1.1 above should be greater than 15 degrees. In Figure 1:

'DWHL' = the "derived wind heeling lever" at any angle θ degrees

= 0.5 x WLO x
$$Cos^{1.3}\theta$$

```
where WLO = GZf/ \cos^{1.3}\theta f
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Noting that:

- WLO- is the magnitude of the actual wind heeling lever at 0 degrees which would cause the yacht to heel to the 'down flooding angle' (θ f) or 60 degrees whichever is least.
- GZf- is the lever of the yacht's GZ at the 'down flooding angle' (θ f) or 60 degrees whichever is least.
- θd- is the angle at which the 'derived wind heeling' curve intersects the GZ curve. (If d is less than 15 degrees the yacht will be considered as having insufficient stability for the purpose of the Code).
- θf- the 'down flooding angle' is deemed to occur when openings having an aggregate area, in square metres, greater than:

sailing yacht's displacement in tons, 1500

are immersed.

Moreover, it is the angle at which the lower edge of the actual opening that results in critical flooding becomes immersed. All openings regularly used for crew access and for ventilation should be considered when determining the down flooding angle. No opening regardless of

size that may lead to progressive flooding should be immersed at an angle of heel of less than 40 degrees. Air pipes to tanks can, however, be disregarded.

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

It might be noted that provided the sailing yacht complies with the requirements of paragraphs 12.3.1.1, 12.3.1.2 and 12.3.1.3 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 degrees.

.4 A 'Stability Information' booklet should be submitted for review and approval to the Administration of the Administration, and placed on board the yacht. The booklet should include details of the maximum steady angle of heel for the worst sailing condition. The steady angle of heel is to be calculated in accordance with 12.3.1.3. The booklet should also include curves of maximum recommended steady angle of heel for the prevention of down flooding in the event of squall conditions.

12.3.1.1 General

The stability of a sailing yacht should be determined by the methods discussed below and its area of operation should be dependent upon the standard that it is shown to achieve.

12.3.1.2 Sailing Yachts without external ballast keels

.1 Stability assessment

The centre of gravity (KG) of a sailing yacht should be established by an inclining experiment and, in addition, a curve of static stability (GZ curve) for the loaded departure, 100% consumables should be produced.

Notes:

- (a) The above condition may include a margin for growth not exceeding 5% of the lightweight with the VCG positioned at the upper deck amidships.
- (b) Buoyant structures intended to increase the range of positive stability should not be provided by fixtures to either a mast or rigging.
- .2 Permitted area of operation

The permitted area of operation is dependent upon a yacht's range of stability as indicated in the table in 11.3.2.6.

12.3.1.3 Sailing Yachts fitted with external ballast keels

- .1 The stability assessment of a sailing yacht may be made by any one (1) of the following methods:
 - (a) Method 1 as for sailing yachts without external ballast keels, see 12.3.1.1 above;
 - (b) Method 2 by the formula shown in 12.3.1.4;
 - (c) Method 3 by the 'STOPS' Numeral developed by the Royal Yachting Association (RYA) and discussed in 12.3.1.5.
- .2 Method 1 should be used for a sailing yacht fitted with more than one (1) of the following:
 - (a) roller furling headsail;
 - (b) in-mast or behind-mast roller furling mainsail;
 - (c) a radar antenna mounted higher than 30% of the length of the yacht above the waterline.
- .3 Permitted area of operation

The permitted area of operation is dependent upon a yacht's range of stability or its STOPS Numeral as indicated in the table in 12.3.1.6.

12.3.1.4 Formulae for estimating range of stability

The range of positive stability for a sailing yacht fitted with an external ballast keel may be estimated from the following formulae:

Estimated range = 110 + 400 degrees (SV - 10.0)

SV = Beam² BR X DCB X (DISPLACED VOL)^{1/3}

Noting that:

Beam = greatest beam measured, excluding rubbing strips, in metres.

Ballast Ratio (BR) = weight of ballast in tons contained in the keel divided by the full displacement in tons.

Displaced Volume = the volume of a yacht's displacement, in m^3 , at the operational draught.

Draught of canoe body (DCB) in metres is taken by measuring the maximum draught at the 1/8 of the full beam from the centerline in way of the transverse section at greatest beam as illustrated in following Figure 2:



Once the estimated range of stability has been determined it is necessary to study the table in paragraph 12.3.1.6 to ascertain the area of operation that the range permits.

12.3.1.5 Assessment using the RYA 'STOPS' numeral or SSS numeral calculated by the Royal Ocean Racing Club

- .1 A sailing yacht can have its area of operation based upon the RYA 'STOPS numeral'. Information on the derivation of the STOPS numeral may be obtained from the Administration. Once the STOPS Numeral has been determined it is necessary to study Table 1 in paragraph 12.3.1.6 to ascertain the permitted area of operation.
- .2 An SSS numeral calculated by the RORC will be accepted in place of a STOPS numeral, provided that it includes a self-righting factor based on an inclining experiment and shown on a valid IOR or IMS rating certificate.

12.3.1.6 Table showing permitted areas of operation and STOPS numeral for a yacht of <15 metres in length

	Minimum required standards		
Permitted area of operation	Range of stability (degrees)	STOPS numeral	
Unrestricted	90 + 60 x <u>(24 – LOA)</u> 17	50	
Up to 60 nm from a safe haven	90 + 60 x <u>(24 – LOA)</u> 20	30	
Up to 20 nm from a safe haven	90 + 60 x <u>(24 – LOA)</u> 25	20	



12.3.1.7 Stability information

Stability information will not be required in booklet form. The owner/owner's representative should, however, present documentary evidence to show that the required range of stability or STOPS Numeral is in accordance with Table 1 in 12.3.1.6 for the intended and permitted area of operation.

12.3.1.8 Guidance on stability assessment

It should be noted that the Administration may require a full stability analysis for a sailing yacht which has been modified from the original design, particularly if the freeboard has been significantly reduced or the modification has involved the addition of a mast-furled main sail, a roller-reefing headsail, a radar antenna or any other item of equipment which may have caused the position of the vertical centre of gravity to be situated at a higher level than that intended by the designer.

FIGURE 3



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12.4 Existing Monohull Sailing Yachts

- .1 When stability information has been previously approved by an Administration under existing criteria, it will continue to be acceptable subject to the following:
 - (a) a sailing yacht does not undergo a major conversion; or
 - (b) the owner/owner's representative elects to re-submit a sailing yacht for stability approval based on the new criteria.
- .2 An existing sailing yacht which does not comply with 12.4.1 should comply with12.3.

12.5 Multihull Sailing Yachts - New and Existing

12.5.1 A multihull sailing yacht should be provided with a 'Stability Information' booklet, giving details of the maximum advised mean apparent wind speeds for each expected combination of sails that may be set, for each of two (2) displacement conditions.

The displacement conditions used in the stability booklet should comprise the maximum displacement condition with full stores, fluids and spares, and the minimum displacement condition with 10% fluids and no stores or spares. The hull and outfit weight used for calculating these conditions should be based on a weighing of the actual completed yacht. Spars, standing and running rigging may be weighed separately.

- 12.5.2 For each combination of sail plan and displacement condition (maximum and minimum), the wind speed (in knots) should be calculated at the point when the maximum wind heeling moment equals the maximum hull righting moment. The maximum advised mean apparent wind speed (MAMAW) = 2/ 3 x calculated wind speed.
- 12.5.3 The wind heeling force developed on the sails and hull should be taken as:

Force (Newtons)= 0.20 x A x (square of wind speed in knots)Force (kg)= 0.02 x A x (square of wind speed in knots)]

where: A = lateral profile area of sails, masts and above-water hull (square metres)

The effective lever of the wind heeling force should be taken as the vertical separation of the geometric centres of area of the above-water and below-water profiles of the sailing yacht, including sails.

- 12.5.4 The maximum hull righting moment for each combination of sail plan and displacement condition may be calculated by either of the following two (2) methods:
 - .1 Conventional method
 - (a) Determination of righting moments by traditional naval architecture methods.
 - (b

-) A full righting moment analysis should be used for a multihull of unusual form and for a trimaran with floats when each float is incapable of easily supporting the displacement of the sailing yacht.
- .2 Simplified method

This method may be used for:

- (a) a catamaran of normal form; and
- (b) a trimaran with floats when each float is capable of easily supporting the displacement of the yacht.

The approximate maximum hull righting moment (kg·metres) is given by:

displacement (kg) x {b - [KG x sin(Hm)]}

where:

- b = the spacing of the centerline of the float to the centerline of the sailing yacht.
- KG = estimated vertical centre of gravity of the yacht, with spars and sails (hoisted), above the bottom of the canoe body, conservatively taken as 75% of the depth from the bottom of the (main hull) canoe body to the top of the main coach roof.
- Hm = estimated angle of heel of maximum righting moment.

It might be noted that provided the sailing yacht complies with the above requirements and is sailed in conditions where the maximum advised mean apparent wind speed (MAMAW) is not exceeded for the actual combination of sail plan and displacement condition, it should be able to withstand a wind gust of 1.5 times the actual wind speed without capsizing.

12.5.5 The permitted area of operation for a sailing yacht should be determined by reference to the minimum acceptable value for maximum advised mean apparent wind speed calculated for the largest working sail plan of the yacht in the minimum displacement condition, as given in the following Table 2. The working sail plan comprises sails that may be set when proceeding with the true wind <60 degrees off the bow, and includes any sail of a weight that is capable of withstanding winds of more than 10 knots. The working sail plan should be detailed in the 'Stability Information' booklet.

Permitted area of operation	Minimum acceptable value for Maximum Advised Mean Apparent Wind speed [MAMAW] (knots) for minimum displacement condition
Unrestricted	18
Up to 60 nm from a safe haven	14
Up to 20 nm from a safe haven	12 10

Table 2

12.5.6 A 'Stability Information' booklet must be placed on board the sailing yacht.

12.5.7 The 'Stability Data' page from the 'Stability Information' booklet must be copied and mounted in a suitable position for the ready reference of the crew when at sea.

13.0 FREEBOARD and FREEBOARD MARKING

13.1 Motor Yachts

A motor yacht must have a freeboard mark placed on each side of the yacht at the position of the longitudinal centre of flotation. The freeboard on a motor yacht must be not less than that determined by the following requirements:

13.1.1 New motor yachts

A new motor yacht, when in still water and loaded with fuel, stores and weights representing the total number of persons certificated to be carried (taken as 75 kg per person), must be upright, and:

- .1 in the case of a motor yacht with a continuous watertight weather deck in accordance with paragraph 5.3.1.1, 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 a motor yacht of seven (7) metres in length or under and not less than 750mm for a motor yacht of 18 metres in length or over. For a motor yacht of intermediate length, the freeboard should be determined by linear interpolation;
- .2 in the case of a motor yacht with a continuous watertight weather deck in accordance with paragraph 5.3.1.2, which may be stepped, recessed or raised, have a freeboard measured down from the lowest point of the well deck of not less than 200mm for a motor yacht of seven (7) metres in length or under and not less than 400mm for a motor yacht of 18 metres in length or over. For a motor yacht of intermediate length, the freeboard should be determined by linear interpolation;
- .3 in the case of either an open or partially open motor yacht, 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 a motor yacht seven (7) metres in length or under and not less than 800mm for

a motor yacht 18 metres in length or over. For a motor yacht of intermediate length, the clear height should be determined by linear interpolation.

* The clear height of the side is to 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.

13.1.2 Existing motor yachts

- .1 Generally, an existing yacht should comply with paragraph 13.1.1.
- .2 In the case of an existing motor yacht that is unable to comply with 13.1.1, the Administration may be prepared to consider a lesser standard of 'operational freeboard' or 'clear height of side'. However, in such a case it will be necessary for the owner/owner's representative to provide the Administration with a detailed account of the operational history of the yacht. 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.

13.1.3 All motor yachts

A yacht should be assigned a freeboard that corresponds to the draught of the yacht when fully loaded with fuel, stores and the total number of passengers and crew to be carried (taken as 75 kg per person) plus 25mm, but which in no case should be less than the freeboard required by paragraphs 13.1.1 or 13.1.2.

13.2 Sailing Yachts

A sailing yacht required to be provided with an approved stability information booklet must have a freeboard mark placed on each side of the hull at the longitudinal position of the longitudinal centre of flotation for the maximum draught at which the stability of the sailing yacht has been determined.

13.3 Freeboard Mark and Loading

.1 The freeboard mark referred to in paragraphs 13.1 and 13.2 above must measure 300mm in length and 25mm in depth. The marking should be permanent and painted black on a light background or in white or yellow on a dark background. The top of the mark should be positioned at the waterline corresponding to the draught given in 13.1.3 or 13.2, as appropriate, at the position of the longitudinal centre of flotation, as shown in Figure 4 below



.2 A yacht must not be operated in any condition that will result in its freeboard marks being submerged when it is at rest and upright in calm water.

14.0 LIFE-SAVING APPLIANCES

14.1 Requirements

Life-saving appliances should be provided in accordance with the requirements appropriate to the type of yacht as given in Table 3.

Area of operation	20 nm	60 nm	Unlimited
Area of operation	20 1111	00 1111	Unimited
Life rafts	None	Yes	Yes
		100%	200%
		See 14.3.3	See 14.3.2
Danbuoy - See 14.4*	None*	None*	None*
Life buoys – lights& lines See 14.5	2	4	4
Lifejacket See 14.6	100%	100%	100%
Parachute flares	2	6	6
Red Hand flares	4	4	4
Smoke Floats	None	2 buoyant or hand held	2 buoyant or hand held
Thermal Protective Aids (TPA) See 14.7 and 22.7.2	100%	100%	100%
VHF – hand held See 14.8	1	1	1
406MHz EPIRB See 14.9	None	1	1
SART See 14.10	None	None	1
General Alarm	None	Yes	Yes
Life-Saving Signals Table 2 x SOLAS No. 2 or 1 x SOLAS No. 1	Yes	Yes	Yes
Training Manual See 23.8	None	Yes	Yes
Instructions for on-	None	Yes	Yes

Table 3 LIFE-SAVING APPLIANCES

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Area of operation	20 nm	60 nm	Unlimited
board maintenance See 22.10			

14.2 Approved types

Life-saving appliances should be of a type approved in accordance with SOLAS Chapter III and the LSA Code or, an alternative approved by the Administration.

14.3 Life rafts

- .1 Unlimited area yachts should be provided with life rafts of such number and capacity that, in the event of any one (1) life raft being lost or rendered unserviceable, there is sufficient capacity remaining for all on board.
- .2 For a yacht that operates beyond 60 nautical miles from land, all the life rafts provided should be equipped with a "SOLAS A PACK". For yachts that always operate within 60 nautical miles from land, the pack can be a "SOLAS B PACK".
- .3 The life rafts should be stowed on the weather deck or in an open space and must be fitted with float free arrangements (hydrostatic release units) so that the life rafts float free and inflate automatically.
- .4 Life rafts may be either:
 - (a) in approved GRP containers stowed on the weather deck or in an open space and fitted with float free arrangements so that the life rafts float free and inflate automatically; or
 - (b) in GRP containers or valise stowed in readily accessible and dedicated weathertight lockers opening directly to the weather deck.
- .5 Life rafts provided on multihull sailing yachts should be located so that they are accessible when the yacht is either upright or after capsizing.
- .6 Inflatable life rafts, hydrostatic release units (other than the types which have a date limited life and are test "fired" prior to disposal) and gas inflatable lifejackets should be serviced annually at a service station approved by the manufacturer.

14.4 Dan-buoy

*A Dan-buoy is only required to be provided on a sailing yacht.

14.5 Life buoys

- .1 Yachts must carry a minimum of (2) life buoys with lines of \geq 18 metres in length & lights.
- 14.6 Lifejackets

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- .1 Lifejackets that are not directly approved by the Administration must comply with a recognized international, national or equivalent CEN standard and be fitted with a whistle, light and retro-reflective tape.
- .2 If the lifejackets are inflatable an additional 10% or 2, whichever is the greater, should be provided.
- .3 A sufficient number of lifejackets should be provided for children carried on the yacht.
- .4 Lifejackets on inshore yachts need not be provided with lights.
- .5 Gas inflatable lifejackets should be serviced annually at a service station approved by the manufacturer.
- .6 Orally inflated lifejackets should be pressure tested annually and, as far as is reasonable and practicable, visually examined weekly by the owner/owner's representative to determine whether they are safe to use.

14.7 Thermal Protective Aids

TPAs must be stowed in an accessible and clearly marked location.

14.8 Portable VHF

If a fixed VHF is fitted in a coastal area yacht, a portable VHF need not be provided.

14.9 406 MHz EPIRB

All yachts are required to have an EPIRB if engaged in international voyage. The Administration strongly recommends that vessels operating more than 60nm from a safe haven carry an EPIRB. Refer to 17.2

15.0 FIRE SAFETY

15.1 New Yachts

15.1.1 Engine Space

- .1 The engine space must be separated from accommodation spaces and storerooms containing combustible materials and liquids or on smaller yachts the engine can be enclosed within a box.
- .2 Combustible materials and liquids should not be stowed in the engine space. If noncombustible materials are stowed in the engine space they should be adequately secured against failing into machinery and cause no obstruction to access in or from the space.
- .3 In a yacht provided with a gas extinguishing system, the boundary of the engine space must be arranged so as to retain the fire extinguishing medium

.4 Portlights or windows should not be fitted in the boundary of the engine space except that an observation port having a maximum diameter of 150mm may be fitted in an internal boundary bulkhead, provided that the port is of the non-opening type, the frame is constructed of steel or other equivalent material and the port is fitted with a permanently attached cover with securing arrangements. Only fire rated toughened safety glass should be used in an observation port.

15.1.2 Insulation

- .1 Thermal or acoustic insulation fitted inside the engine space should be of non-combustible material.
- .2 Insulation should be protected against impregnation by flammable vapors and liquids.

15.1.3 Fire extinguishing

Unless a fixed fire extinguishing system is fitted in the engine space, provision should be made in the boundary of the space for discharging fire extinguishing medium into the engine space.

15.1.4 Cleanliness and containment

- .1 Provision should be made to retain any oil leakage within the confines of the engine space.
- .2 In a yacht constructed of wood, measures should be taken to prevent absorption of oil into the structure.
- .3 Provision should be made for the clearing of spillage and drainage collected in the engine space.
- .4 Efficient means should be provided to ensure that all residues of persistent oils are collected and retained on board for discharge to collection facilities ashore. A record/receipt must be retained onboard.
- .5 The engine space is to be kept clean and clear of oily waste and combustible materials.
- .6 Reference should also be made to Section 30, Pollution Prevention.

15.1.5 Open flame gas appliances

- .1 Open flame gas appliances provided for cooking, heating or any other purposes should comply with the requirements of ISO 10239 or equivalent.
- .2 Installation of an open flame gas appliance should comply with the provisions of Annex 3.
- .3 Materials which are in the vicinity of open flame cooking or heating appliances must be noncombustible.
- .4 Combustible materials and other surfaces that do not have a Class 1 surface spread of flame rating should not be left unprotected within the following distances of the cooker:

- .1 400mm vertically above the cooker, for horizontal surfaces, when the yacht is upright;
- .2 200mm above the top of the cooker, for horizontal surfaces, when the sailing yacht is heeled to 30 degrees; and
- .3 125mm horizontally from the cooker, for vertical surfaces.
- .4 Curtains or any other suspended textile materials should not be fitted within 600mm of any open flame cooking, heating or other appliance.

15.1.6 Furnishing materials

- .1 Only Combustion Modified High Resilient (CMHR) foams should be used in upholstered furniture and mattresses.
- .2 Upholstery fabrics should satisfy the fire test procedures of IMO Resolution MSC.61(67), Annex 1, Part 8, or equivalent.

15.1.7 Smoke detection

- .1 Efficient smoke detectors must be fitted in the engine space(s) and spaces containing open flame cooking and/or heating devices.
- .2 Efficient smoke detectors may be required in order to comply with paragraph 15.1.8.2.

15.1.8 Means of escape

- .1 Each accommodation space, which is either used for sleeping/rest or is affected by a fire risk situation, should be provided with two (2) means of escape. Only in an exceptional case should one (1) means of escape be accepted. Such a case would be when the single escape is to open air or when the provision of a second means of escape would be detrimental to the overall safety of the yacht.
- .2 In the exceptional case when a single means of escape is accepted, efficient smoke detectors must be provided as necessary to give early warning of a fire emergency that could cut off the single means of escape from a space.

15.2 Existing Yachts

- .1 In an existing yacht, the requirements of Section 15.1 should be reasonably complied with as soon as possible.
- .2 In an existing yacht, replacement of existing upholstery or mattresses to satisfy paragraph 15.1.6 may be delayed until renewal.

16.0 FIRE APPLIANCES

A yacht should be provided with efficient firefighting equipment in accordance with Table 4.Smaller yachts, where it is impracticable to comply, can be assessed on a case by case basis.

.1 One hand fire pump (outside engine space or one (1) power driven fire pump (outside engine space)*, with sea and hose connections, capable of delivering one (1) jet of water to any part of the yacht through hose and nozzle.

.2 One fire hose of adequate length with 10mm nozzle and suitable spray nozzle

.3 Fixed fire extinguishing in engine space that may consist of a portable extinguisher arranged to discharge into the space.

.4 Not less than two (2) multipurpose fire extinguishers to BS 5423 with a minimum fire rating of 13A/113B or equivalent.

.5 At least two (2) metal fire buckets with lanyards.

.6 One fire blanket in galley or cooking area

* This may be one (1) of the pumps required by Section 11, when fitted with a suitable change over arrangement that is readily accessible.

17.0 RADIO EQUIPMENT

17.1 Radio Installation

- .1 A yacht should carry equipment for transmitting and receiving on the VHF Maritime Mobile band and for receiving regular shipping weather forecasts for the area of operation.
- .2 When the main aerial is fitted to a mast that is equipped to carry sails, an emergency aerial should be provided.
- .3 A yacht, other than one operating within 20 miles of a safe haven must be provided with a radio installation capable of transmitting and receiving messages to and from a radio communications centre on land. Having regard to the range limitations of VHF, radio equipment should be provided which has a range capability commensurate with that needed for the intended area of operation.
- .4 When the electrical supply to radio equipment is from a battery, charging facilities, or a duplicate battery of capacity sufficient for the voyage, should be provided. Battery electrical supply to radio equipment should be arranged such that radio communications should not be interrupted.
- .5 Instruction cards giving a clear summary of the radio-telephone distress, urgency and safety procedures should be displayed in full view of the radiotelephone operating positions.

17.2 406MHz EPIRBs

Requirements for the carriage of a 406MHz EPIRB are given in Section 14.1, Table 3.

17.2.1 Distress beacons are designed to broadcast a Vessel's position and identity and call for help should she run into trouble.

17.2.2 EPIRBS must be registered. They may be registered in the country where they are purchased provided the SAR authorities in that country accept the registration under the Cook Islands Flag or be re-programmed with the Cook Islands prefix 518 as part of the HEX ID and registered with the Rescue Co-ordination Centre New Zealand.

17.2.3 An EPIRB will have a country prefix, (usually a three digit number, depending on where the EPIRB is purchased and registered – Check <u>ITU List</u> of MID Country Code Numbers) followed by the beacon serial number programmed into it. The Prefix and the serial number create the new 15 digits hexadecimal ID (characters range must be 0 - 9 and a - f), which shall be displayed on the outside of the EPIRB.

18.0 NAVIGATION LIGHTS, SHAPES and SOUND SIGNALS

- .1 A yacht should comply with the requirements of the COLREGS, as amended.
- .2 Sound signalling equipment should comply with the Regulations. A yacht of < 12 metres in length, if accepted for registration, is not obliged to carry the sound signalling equipment

required by the Regulations on the condition that some other means of making an efficient sound signal is provided.

.3 If it can be demonstrated to the Administration that, for a particular yacht, full compliance with the Regulations is impracticable, application for an exemption should be made to the Administration.

19.0 NAVIGATIONAL EQUIPMENT

19.1 Magnetic Compass

A yacht should be fitted with an efficient magnetic compass and valid deviation card complying with the following requirements as appropriate:

- .1 In a steel yacht, it should be possible to correct the compass for coefficients B, C and D and heeling error;
- .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;
- .3 Means should be provided for taking bearings as nearly as practicable over an arc of the horizon of 360 degrees. This requirement may be met by the fitting of a pelorus or, in a yacht other than a steel yacht, a hand bearing compass.

19.2 Other Equipment

A yacht that operates more than 20 miles from land should be provided with:

- .1 Global Positioning System (GPS)
- .2 an echo sounder; and

20.0 MISCELLANEOUS EQUIPMENT

20.1 Nautical Publications

All yachts must comply with the requirements of Cook Islands Rules, Safety of Navigation, Navigational Charts, Publications and Notices to Mariners.

20.2 Day Light Signalling Lamp

A yacht should be provided with an efficient waterproof electric light suitable for Morse signalling.

20.3 Radar Reflector

A yacht must carry a radar reflector complying with the specification ISO 8729:1987 Shipbuilding - Marine radar reflectors or any approved equivalent specification unless the superstructure is metal and presents a good radar echo.

20.4 Measuring Instruments

- .1 All yachts must carry a barometer.
- .2 A monohull *sailing* yacht operating in the offshore or unlimited areas must be provided with an anemometer and an inclinometer.
- .3 A multihull *sailing* yacht must be provided with an anemometer providing a continuous indication of relative wind speed, with the display clearly visible at each control position.

20.5 Searchlight

A yacht operating beyond the inshore area should be provided with an efficient fixed and/or portable searchlight suitable for use in man-overboard search and recovery operations.

20.6 Wire Cutting Equipment

A sailing yacht should carry wire cutting equipment for use in the event of dismasting.

21.0 ANCHORS and CABLES

21.1 General

The requirements given in Table 4 are for a yacht of normal form which may be expected to ride-out storms while at anchor and when seabed conditions may not be favorable.

	Anchor	Mass	A	Anchor Cab	le Diamete	r
<u>2</u>	Main Kedge	Main		Kedge		
			Chain	Rope	Chain	Rope
(metres)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)
6	8	4	6	12	6	10
7	9	4	8	12	6	10
8	10	5	8	12	6	10
9	11	5	8	12	6	10
10	13	6	8	12	6	10
11	15	7	8	12	6	10
12	18	9	8	14	8	12
13	21	10	10	14	8	12
14	24	12	10	14	8	12
15	27	13	10	-	8	12
16	30	15	10	-	8	12
17	34	17	10	-	8	14
18	38	19	10	-	8	14
19	42	21	12	-	10	14
20	47	23	12	-	10	14
21	52	26	12	-	10	14
22	57	28	12	-	10	16
23	62	31	12	-	10	16
24	68	34	12	-	10	16

Table 4 ANCHORS AND CABLES

Note: Chain cable diameter given is for short link chain. Chain cable should be sized in accordance with EN 24 565:1989 (covering ISO 4565:1986, Anchor chains for small craft, or equivalent).

21.2 Anchors

- .1 The anchor sizes given in Section 21.1, Table 4 are for high holding power (HHP) types.
- .2 When a fisherman type of anchor is provided, the mass given in Table 4 should be increased by 75% but the diameter of the anchor cable need not be increased.

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- .3 When a yacht has an unusually high windage, due to high freeboard, heavy rigging (e.g., square-rigger) or large superstructures, the mass of anchor given in Table 4 must be increased to take account of the increase in wind loading.
- .4 The diameter of the anchor cable must be appropriate to the increased mass of anchor.

21.3 Anchor Cables

- .1 The length of anchor cable attached to an anchor must be appropriate to the area of operation but generally should be not less than 4 x the yacht load line length overall or 30 metres, whichever is the longer, for each of the main and kedge anchors.
- .2 In a yacht ≥15 metres in load line length, the anchor cable for the main anchor should be of chain.
- .3 In a yacht of <15 metres in load line length, the cable for main anchors and for kedge anchors may be of chain or rope.
- .4 When the anchor cable is of rope, there must be ≥10 metres of chain between the rope and the anchor. The rope diameter given in Section 21.1, Table 4, is for nylon construction. When rope of another construction is proposed, the breaking load should be not less than that of the nylon rope specified in the table.

21.4 Anchoring Arrangements

- .1 When an anchor mass is more than 30 kg, a windlass should be provided for handling the anchor.
- .2 There should be a strong securing point on the foredeck and a fairlead or roller at the stem head that can be closed over the cable.
- .3 Area of Operation Offshore & Unlimited
 - .1 A yacht must be provided with at least two (2) anchors (one (1) main and one (1) kedge or two (2) main) and cables, subject to Section 21.1 and in accordance with the requirements of Table 4.
 - .2 Anchors of equivalent holding power may be proposed and provided, subject to approval by the Administration.
- .5 Area of Operation Coastal

An coastal area yacht restricted to operations in favorable weather and daylight from a designated point should be provided with an anchor of sufficient mass in accordance with Table 4.

21.5 Towlines

A yacht should be provided with a towline of not less than the length and diameter of the kedge anchor cable. The towline may be the warp for the kedge anchor.

22.0 ACCOMMODATION

22.1 General

22.1.1 Handholds and grab-rails

There should be sufficient handholds and grab-rails within the accommodation to allow safe movement around the accommodation when the yacht is in a seaway.

22.1.2 Securement of heavy equipment

- .1 Heavy items of equipment such as batteries, cooking appliance etc., should be securely fastened in place to prevent movement due to severe motions of the yacht.
- .2 Stowage lockers containing heavy items should have lids or doors with secure fastening.

22.1.3 Escape arrangements

Means of escape from accommodation spaces should satisfy the requirements of paragraphs 6.3.1, 6.3.3 and 15.1.8.

22.1.4 Ventilation

Effective means of ventilation should be provided to enclosed spaces that may be entered by persons on board.

22.2 Yachts at Sea for more than 24 hours

When a yacht 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:

22.2.1 Ventilation

Mechanical ventilation should be provided to accommodation spaces which are situated completely below the level of the weather deck (excluding any coach roof) on yachts intended to make long international voyages or operate in tropical waters and which carry nine (9) or more berthed persons below deck. As far as practicable, such ventilation arrangements should be designed to provide at least 6 changes of air per hour when the access openings to the spaces are closed.

22.2.2 Lighting

- .1 An electric lighting system should be installed which is capable of supplying adequate light to all enclosed accommodation and working spaces.
- .2 The system should be designed and installed in a manner that will minimize the risk of fire and electric shock.

22.2.3 Water services

- .1 An adequate supply of fresh drinking water should be provided
- .2 In addition, a dedicated emergency supply of drinking water should be carried to provide at least two (2) litres to each person on board.

22.2.4 Sleeping accommodation

A bunk or cot should be provided for each person on board, and at least 50% of those provided should be fitted with lee boards or lee cloths.

22.2.5 Galley

- .1 A galley should be fitted with a means for cooking, a sink and adequate working surface for the preparation of food.
- .2 When a cooking appliance is gimballed, it should be protected by a crash bar or other means to prevent it being tilted when it is free to swing. A strap, portable bar or other means should be provided to allow the cook to be secured in position, with both hands free for working, when the yacht is rolling. Means should be provided to isolate the gimballing mechanism.
- .3 There should be secure storage for food in the vicinity of the galley.
- .4 Refer to Sections 30.1 and 30.4 for possible further regulatory requirements.

22.2.6 Toilet facilities

- .1 Adequate toilet facilities, separated from the rest of the accommodation, should be provided for persons on board.
- .2 In general, there should be at least one (1) marine type flushing water closet and one (1) wash hand basin for every 12 persons.
- .3 Refer to Section 30.3, Sewage.

22.2.7 Stowage facilities for personal effects

Adequate stowage facilities for clothing and personal effects should be provided for each person on board.

23.0 PROTECTION of PERSONNEL

23.1 Deckhouses

A deckhouse used for accommodation of persons should be of sufficient construction to withstand the prevailing conditions.

23.2 Bulwarks, Guard Rails and Handrails

- .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.
- .2 When the proper working of a *sailing* yacht may otherwise be impeded, bulwarks or two (2) courses of rails or taut wires should be fitted around the working deck and the height of the protection should be not less than 600mm above the deck. Rails or wires should be supported at intervals not exceeding 2.2 metres.
- .3 When the proper working of a *sailing* yacht of less than nine (9) metres in load line length, if accepted for registration, may otherwise be impeded, bulwarks or a single rail or taut wire should be fitted around the working deck and the height of protection should not be less than 450mm above the deck.
- .4 To protect persons from falling overboard, and when the proper working of the yacht is not impeded and there are persons frequently on the 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. Intermediate courses should be evenly spaced.
- .5 In a yacht fitted with a cockpit that opens aft to the sea, additional guardrails should be fitted so that there is no vertical opening greater than 500mm.
- .6 In a *sailing* yacht fitted with a headstay, a fixed or drop-nosed bow pulpit should be provided forward of the headstay of at least the same height as the guardrails, except in way of a substantial bowsprit. A drop-nosed pulpit with an opening wider than 250mm should be provided with a means of closure at guardrail height, for use at sea.
 - .1 In a *sailing* yacht fitted with a headstay, a pulpit should be provided forward and around the headstay of at least the same height as the adjacent guardrails.
 - .2 When it is desired to move forward of a pulpit to access a bowsprit or to assist with docking operations it should be permissible to arrange the pulpit with an opening in its forward-most part. In this case, an efficient means of closure of the opening and jackstays in accordance with 23.3.5 should be provided.
- .7 Access stairways, ladderways and passageways should be provided with handrails.
- .8 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.

23.3 Safety Harnesses

- .1 A motor yacht should be provided with two (2) safety harnesses. A *sailing* yacht should provide a safety harness for each person on board.
- .2 Efficient means for securing the life lines of safety harnesses should be provided on exposed decks, and grab-rails provided on the sides and ends of a deckhouse.
- .3 Fastening points for the attachment of safety harness life lines should be arranged having regard to the likely need for work on or above deck. In general, securing points should be provided in the following positions:
 - .1 close to a companionway; and
 - .2 on both sides of a cockpit.
- .4 When guard rails or wires are not otherwise provided, jackstays (which may be fixed or portable) secured to strong points, should be provided on each side of the yacht to enable crew members to traverse the length of the weather deck in bad weather.
- .5 When a *sailing* yacht is provided with an open fronted pulpit, jackstays should be carried sufficiently far forward to protect persons working in the vicinity of the pulpit.

23.4 Toe Rails

When appropriate to the working of a yacht provided with a sailing rig, a toe rail of not less than 25mm in height should be fitted around the working deck.

23.5 Surface of Working Decks

- .1 The surface of a working deck should be non-slip.
- .2 Acceptable surfaces are: unpainted wood; a non-skid pattern molded into GRP; non-slip deck paint; or an efficient non-slip covering.
- .3 Particular attention should be paid to the surface finish of a hatch cover when it is fitted on a working deck and to sloping coach roof sides on *sailing* yachts where these effectively constitute a working deck when the *sailing* yacht is heeled.
- .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.

23.6 Recovery of Persons from the Water

An over side boarding ladder or scrambling net which extends from the weather deck to at least 600mm below the operational waterline or other means to aid the recovery of an unconscious person from the water should be provided to the satisfaction of the Administration.

23.7 Personal Clothing

It should be the responsibility of an owner, managing agent or skipper to advise that the following requirements for items of personal clothing should be met:

- .1 Each person on board a yacht should have protective clothing appropriate to the prevailing air and sea temperatures.
- .2 On a yacht that intends to operate in high latitudes, each person on board should have either an approved immersion suit or a dry suit of suitable quality to reduce the likelihood of hypothermia should the wearer enter the sea.
- .3 Each person on board a yacht should have footwear having non-slip soles, to be worn on board.

23.8 Training Manual

- 23.8.1 The yacht's training manual should include details of established safe working practices specific to the yacht, guidance on training for members of the crew, personal clothing and protection from injury, health and safety awareness, and prevention of pollution.
- 23.8.2 The training manual should contain instructions and information on the life-saving appliances provided in the yacht and on the best methods of survival in easily understood terms and illustrations where appropriate. Depending on the life-saving appliances provided, the following should be explained in reasonable detail:
 - .1 donning of lifejackets, immersion suits, and thermal protective aids, as appropriate;
 - .2 mustering at assigned stations;
 - .3 boarding, launching and clearing survival craft, rescue boats, fast rescue boats, free-fall boats and inflated boats;
 - .4 illumination in launching areas;
 - .5 location and use of pyrotechnics;
 - .6 use of all survival equipment;
 - .7 use of all detection equipment;
 - .8 with the use of illustrations, the use of radio life-saving appliances;
 - .9 use of sea anchors;
 - .10 use of engine and accessories;
 - .11 recovery of survival craft, rescue boats, fast rescue boats, free-fall boats and inflated boats including stowage and securing, where applicable;
 - .12 hazards of exposure and the need for warm clothing;
 - .13 best use of the survival craft facilities in order to survive;

- .14 methods of retrieval, including the use of helicopter rescue gear, breeches-buoy and shore life-saving apparatus and yacht's line-throwing apparatus;
- .15 all other functions contained in the muster list and emergency instructions;
- .16 instructions for emergency repair of the life-saving appliances;
- .17 means of rescue arrangements;
- .18 marine evacuation systems, where applicable;
- 23.8.3 In addition to the requirements of paragraph 23.8.2 above, the skipper should routinely drill the crew who will be sailing on the voyage regarding the following:
 - .1 Location of life rafts and the method of launching;
 - .2 Procedures for the recovery of a person from the sea;
 - .3 First Aid;
 - .4 Procedures and operation of radios carried on board;
 - .5 Location of navigation and other light switches;
 - .6 Location and use of firefighting equipment on various types of fires;
 - .7 Method of starting, stopping, and controlling the main engine; and
 - .8 Method of navigating to a suitable port of refuge.

23.9 Safety Briefing

Before the commencement of any voyage the skipper should ensure that all persons on board are briefed on the stowage and use of personal safety equipment such as lifejackets, thermal protective aids and life buoys, and the procedures to be followed in cases of emergency.

23.10 Instructions for on-board maintenance

Instructions should be provided describing the maintenance procedures for all safety and firefighting appliances in easily understood terms and illustrated wherever possible. The instructions should include:

- .1 a checklist for use when carrying out required inspections;
- .2 maintenance and repair instructions;
- .3 a schedule of periodic maintenance;
- .4 a diagram of lubrication points with the recommended lubricants;

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- .5 a list of replacement parts;
- .6 a list of sources of spare parts; and
- .7 a record of inspection and maintenance.

24.0 MEDICAL STORES

- .1 A yacht should carry medical stores appropriate to the area of operation.
- .2 A yacht operating in the Coastal area should carry an augmented first aid kit as detailed in Annex 5
- .3 A yacht operating in the offshore area must carry double the medical stores prescribed in Section 1 of Annex 5..4 A yacht operating unlimited should carry the medical stores prescribed in Section 2 of Annex 5, or its equivalent.

25.0 TENDERS (Dinghies)

- .1 An inflatable tender is not required to meet the requirements for inflatable boats or rigid inflatable boats.
- .2 A tender should be clearly marked with the number of people of mass 75 kg that it can safely carry and with the name of the parent yacht.
- .3 An inflatable tender should be fit for the purpose intended, regularly inspected by the owner/owner's representative and maintained in a safe condition.
- .4 A *sailing* yacht should carry (or tow) one or more rigid or inflatable tenders.

26.0 STORM SAILS

- .1 Efficient storm sails should be carried which are capable of taking a *sailing* yacht to windward in heavy weather.
- .2 Storm sails need not be provided for a *sailing* yacht restricted to the coastal area.

27.0 MANNING

27.1 Owner Responsibility

- .1 It is the responsibility of the owner/owner's representative of a yacht to ensure that it is safely manned and the skipper and crew properly trained and certified.
- .2 The qualification of the skipper (and of the other member(s) of the crew, where applicable) for operations are given in Annex 6.

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27.2 Yachts on Demise Charter

The owner/owner's representative of a yacht offered for demise charter should ensure that the skipper and crew of the yacht are provided with sufficient information about the yacht and its equipment to enable it to be navigated safely. The owner/owner's representative should be satisfied that the demise charter skipper and crew are competent for the intended voyage.

27.3 Yachts on Skippered Charter

Before the commencement of any voyage the skipper should ensure that all persons on board are briefed on the stowage and use of personal safety equipment such as lifejackets, thermal protective aids and life buoys, and the procedures to be followed in cases of emergency.

28.0 RECOGNISED ORGANIZATIONS

28.1 Recognised Classification Societies

.1 The organisations currently recognised by the Administration for the survey and certification of yachts.

This list is subject to change and will updated on the Maritime Cook Islands website as required (http://www.maritimecookislands.com/maritime-cook-islands/class-societies.html)

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29.0 YACHTS OPERATING under RACE RULES

29.1 Motor yachts

- .1 A yacht chartered or operated commercially solely for the purpose of racing need not comply with the provisions of the Code provided that, when racing, it is racing under the rules of the Union Internationale Motonautique and the affiliated national authority in the country where the race is taking part.
- .2 Relief from compliance with the provisions of the Code that is permitted by paragraph 29.1.1 does not apply to a motor yacht taking part in a recreational event or an event created and organized with intent to avoid the provisions of the Code.

29.2 Sailing yachts

- .1 A sailing yacht chartered or operated commercially solely for the purpose of yacht racing need not comply with the provisions of the Code provided that when racing:
 - (a) It is racing under the rules of the International Yacht Racing Union or equivalent; or
 - (b) If it is racing offshore, it complies with the special regulations of the Offshore Racing Council or the race organizing committee or equivalent; and
 - (c) If it is a yacht of a national or an international class, it complies with the appropriate class rules.
- .2 Relief from compliance with the provisions of the Code that is permitted by 29.2.1 does not apply to a sailing yacht taking part in:
 - (a) a sail training race;
 - (b) a recreational event; or
 - (c) an event created and organized with intent to avoid the provisions of the Code.

30.0 POLLUTION PREVENTION

30.1 Requirements

- .1 A yacht complying with the Code should also comply with Cook Islands Maritime Regulation 2.13 and meet international, regional and local requirements for the prevention of marine pollution that are applicable to the area in which the yacht is operating.
- .2 Responsibility for the yacht to be properly equipped and maintained to meet the prevailing requirements rests with the owner or managing agent.
- .3 It is also the responsibility of the owner/owner's representative to ensure that a demise charterer of a yacht receives up-to-date and adequate information on prevention of pollution in the area in which the demise charterer intends to operate. The information may include the need to seek advice from local authorities, for which contact points should be given.

30.2 Oil

Means to prevent pollution by oil should be provided which are acceptable to the Administration and authorities in the area in which a yacht operates.

30.3 Sewage

When the direct overboard discharge from a water closet is prohibited by authorities in an area of operation, the provision of "holding tanks" of sufficient capacity to store waste for discharge to shore facilities may be needed for a yacht to comply.

30.4 Garbage

The disposal of garbage into the sea is prohibited. Arrangements for the retention of garbage on board and for discharge to shore facilities should be provided. Arrangements should be varied as necessary to comply with special requirements that may be applied by authorities in the area in which a yacht operates.

31.0 ACCIDENT INVESTIGATIONS

- .1 The Administration with which the yacht is registered is obliged under SOLAS Regulation I/21 and MARPOL 73/78 articles 8 and 12 to investigate accidents or incidents. Apart from this legal requirement, the Administration investigates such occurrences to demonstrate the effective control and importance Cook Islands attaches to safety at sea.
- .2 It is an offense under Cook Islands Maritime Transport Act 2008 for the yacht's master, skipper or owner not to inform the Office of the Administration of a reportable accident shortly after it occurs and to provide details so that an assessment of its seriousness can be made. The Administration will appoint a suitable Cook Islands Appointed Surveyor/Investigator whenever an investigation is required.
- .3 All serious casualties in accordance with the International Maritime Organization's (IMO) definition will be reported to IMO by the Administration...

ANNEX 1

GUIDELINES FOR THE ASSESSMENT OF VARIATIONS TO THE STANDARDS APPLIED BY THE CODE

- 1. Section 3.3 recognizes that variations to the standards applied by the Code can be considered on the basis that the variations provide equivalent standards of safety by taking into account specific local conditions that are certain to exist.
- 2. Applications for the acceptance of alternatives must be supported by justifications and be formally made to the Administration.
- 3. Variations are expected to be either a direct alternative to a requirement or a reduced requirement based upon factors that compensate for the reduction.
- 4. Justifications made formally in support of an application for acceptance of a reduced requirement are to be arranged in priority order, according to the judgment of the applicant.
- 5. Although not an exhaustive list, factors that will be considered individually by the Administration will include:
 - 1. area of operations significantly reduced;
 - 2. a guaranteed control of yacht which restricts operations to sea and weather conditions such that there is a very low risk of an accident;
 - 3. the certainty of readily available means of emergency rescue;
 - 4. operations wholly within sight of the local authority and means of emergency rescue;
 - 5. yachts operating in close proximity to one another and equipped to provide efficient safety back-up to each other in an emergency;
 - 6. provision or wearing of additional (special) individual personal survival equipment or clothing which will protect lives in an emergency;
 - 7. enhanced communications between the yacht(s) and constantly attended shore base with readily available emergency rescue craft at the base;
 - 8. the nature of the sport or pleasure activity involving very low risk of participants accidentally entering the water or causing the yacht to capsize;
 - 9. very restricted operations to sea from a safe beach;
 - 10. inherent safety of the yacht by design, test and experience;
 - 11. a high ratio of professional skipper and crew numbers to the number of other persons on board;
 - 12. the number of safety craft provided to protect the yachts operating commercially for sport or pleasure;
- 13. enhanced provisions for distress alert and rescue;
- 14. means provided for "dry" rescue from a yacht in emergency situations.

SIMPLIFIED TONNAGE MEASUREMENT METHOD

The following simplified method of measurement may be used, if necessary, for commercial yachts <24 metres in load line length and private yachts that do not have their tonnages calculated in accordance with the International Tonnage Convention, 1969:

1.0 Applicability

This simplified tonnage assignment criterion is applicable to monohull and multihull yachts of normal proportions and form.

2.0 Definitions – For the purpose of this simplified measurement scheme only

.1 Length (L) – Distance in metres measured along the main deck at the centerline of the yacht from the fore side of the hull to the aft side of the transom. Bowsprits, stern mounted diving platforms, and other appendages that do not contribute to the volume of the yacht are not to be included in this measurement.



- .2 Breadth (B) Maximum width of the yacht, excluding rub rails and deck caps, measured in metres from the outside of the hull on one side to the outside of the hull on the other side of the yacht.
- .3 Depth (D) Maximum depth of the yacht measured in metres vertically from the top of the deck at the side to the underside of the hull where it meets the keel or to the point where the projected line of the bottom intersects the yacht's centerline.
- .4 Volume (V) The product of length, breadth, and depth.

3.0 Measurements

.1 All lengths and depths must be measured in a vertical plane at centerline and breadths must be measured in a line at right angles to that plane. All dimensions must be expressed in metres.

.2 For multihull yachts, each hull must be measured separately for overall length, breadth, and depth and the yacht as a whole must be measured.

4.0 Deck Structures

- .1 For most yachts, the formulas listed below account for the volumes of deck structures such as cabins and deckhouses. However, if deck structures are excessive in size, the gross tonnage is calculated by adding the principal deck structure tonnage to the gross tonnage(s) of the yacht's hull(s).
- .2 Deck structures are considered excessive in size if the tonnage of the principal deck structure calculated using the formula below is equal to or exceeds the gross tonnage(s) of the yacht's hull(s).



Principal Deck Structure Tonnage = L x B x D / 2.831

5.0 Calculations



6.0 Multihull Yachts

Gross Tonnage of a multihull yacht is the sum of the gross tonnages of each hull as calculated using the formulas listed above. For example:



Where L is the length of the centre hull and L_1 is the length of the outside hulls.

OPEN-FLAME GAS INSTALLATIONS

1.0 General Information

- .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.
- .2 Consequently, the location of gas-consuming appliances and storage containers and the provision of adequate ventilation to spaces containing them, is most important.
- .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.
- .4 LPG, which is heavier than air, when released, may travel some distance while 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 petroleum vapor.
- .5 A frequent cause of accidents involving LPG installations is the use of unsuitable fittings and improvised "temporary" repairs.

2.0 Stowage of Gas Containers

- .1 Gas containers should be stowed on the open deck or in an enclosure opening only to the deck or overboard and otherwise gastight, so that any gas, which may leak from the containers, can disperse overboard.
- .2 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.
- .3 Where more than one (1) container can supply a system, the system should not be used with a container removed.
- .4 Containers not in use or not being fitted into an installation should have the protecting cap in place over the container valve.

3.0 Fittings and Pipework

- .1 Solid drawn copper alloy or stainless steel tube with appropriate compression or screwed fittings is recommended for general use for pipework in LPG installations.
- .2 Aluminum or steel tubing, or any material having a low melting point, such as rubber or plastic, should not be used, except as permitted by paragraph 3.3.
- .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.

Proposals for a more extensive use of flexible piping (which conforms to an internationally recognised standard for its application) should be submitted to the Administration via its Administration for approval on an individual basis.

4.0 Open Flame Heaters and Gas Refrigerators

- .1 When such appliances are installed, they should be well secured 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.
- .2 In refrigerators, where the burners are fitted with flame arrester gauze, shielding of the flame may be an optional feature.
- .3 Refrigerators should be fitted with a flame failure device.
- .4 Flue-less 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% by volume.
- .5 Heaters of a catalytic type should not be used.

5.0 Flame Failure Devices

All gas consuming devices should be fitted, where practicable, with an automatic gas shut-off device that operates in the event of flame failure.

6.0 Gas Detection

- .1 Suitable means for detecting the leakage of gas should be provided in any compartment containing a gas-consuming appliance, or in any adjoining space of a compartment into which the gas (more dense than air) may seep.
- .2 Gas detectors should be securely fixed in the lower part of the compartment in the vicinity of the gas-consuming appliance and in other space(s) into which gas may seep.
- .3 Any gas detector should, preferably, be of a type that will be actuated promptly, and automatically by the presence of a gas concentration in air of not greater than 0.5% (representing approximately 25% of the lower explosive limit) and should incorporate an audible and a visible alarm.
- .4 Where electrical detection equipment is fitted, it should be certified as being flameproof or intrinsically safe for the gas being used.
- .5 In all cases, the arrangements should be such that the detection system can be tested frequently while the yacht is in service.

7.0 Emergency Action

- .1 A suitable notice, detailing the action to be taken when an alarm is given by the gas detection system, should be displayed prominently in the yacht.
- .2 The information given should include the following:
 - (a) The need to be ever alert for gas leakage; and

(b) When leakage is detected or suspected, all gas-consuming appliances should be shut off at the main supply from the containers, and NO SMOKING should be permitted until it is safe to do so.

(c) Naked lights should never be used as a means of locating gas leaks.

LIST OF CERTIFICATES TO BE ISSUED

Certification	Subject & Convention	Cook Islands Regulations	Survey & Certification Tasked To	Limits	Detail & Remarks
Certificate of Registry	CISR Act 2007		Administration		Interim / Full
Vessel Safety Certificate and Record	Small Yacht Code		Administration/Cook Islands Appointed Surveyor.	< 24 m	Private or Commercial
Radio Equipment Certificate	Radio SOLAS 74		Class/Authorised Surveyor	< 300 GT	
International Sewage Pollution Prevention Certificate	Pollution MARPOL Annex IV		Class/Authorised Surveyor	> 15 Persons > 400 GT	Sewage treatment equipment
Ship Radio Station License	Communications		Administration		Radio Call and Signal Letters, frequency assignments, station licensing, Inmarsat, etc.
Minimum Safe Manning Certificate	Manning STCW		Administration		Commercial vessels

NOTES: 1. The Administration retains the right to survey and issue certificates for all of the above items.

2. References to regulations mentioned above should be construed as including any amendment to those regulations that may be made from time to time.

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MEDICAL STORES

1.0 Yachts operating should carry medical stores as follows:

Name of Item and Description	Quantity Required
FIRST AID KIT	
 The following to be in a damp-proof strong canvas bag, satchel or box with a strap for carrying: (1) 4 x triangular bandages with sides of about 90cm and a base of about 127cm. (2) 6 x standard dressings no 8 or 13 BPC (3) 2 x standard dressings no 9 or 14 BPC (4) 2 x extra large sterile unmediated dressings 28cm x 17.7cm (5) 6 medium size safety pins, rustless (6) 20 assorted adhesive dressing strips medicated BPC (7) 2 sterile pads with attachments (8) 2 x packages each containing 15g sterile cotton wool (9) 5 pairs of large, disposable Polythene gloves. 	1*
PARACETAMOL High strength aspirin or equivalent; 500mg tablets;	50
SEASICKNESS REMEDY Tablets (Hyoscine hydro bromide 0.3mg recommended);	50
BUTTERFLY CLOSURES Adhesive skin closures, length about 5cm individually sealed sterile, in a container;	20
FORCEPS Epilation with oblique ends, 12.5cm of stainless steel throughout;	1
SCISSORS About 18cm, one (1) blade sharp pointed and the other round-ended;	1
THERMOMETER Ordinary range clinical thermometer, stubby bulb pattern;	1
FIRST AID MANUAL	1

2.0 Yachts operating unlimited (carrying more than 15 persons) should carry medical stores, or the equivalent, as follows:

Product	Size	Quantity
Aspirin 325 mg Tablets-100 tablets per	100	2
Alcohol 70% Rubbing Isopropyl-16 oz	16 oz	1
Aluminum Acetic Acid 2% Otic Solution (Domeboro) 60 ml units	60 ml	2
Alumina and Magnesia Tablets (Maalox)-100 tablets per	100	3
Calamine Lotion-4 oz	4 oz	1
Hibiclens Solution (Chlorhexidine Gluconate)-16 oz	16 oz	1
Charcoal, Activated Powder-227g	227g	1
Chloroquine 250 mg Tablets-100 tablets per	100	1
Chlorpromazine 25 mg Tablets (Thorazine)-Each	Each	20
Clove Oil-1 oz	1 oz	1
Meclizine 25 mg Tablets (Antivert)-100 tablets per	100	1
Dimercaprol 100 mg/ml Injection-2 ml units	2 ml	1
Epinephrine 1 mg/ml Injection-1 ml units	1 ml	10
Triple Antibiotic Ophth Solution-10 ml units	10 ml	1
Triple Antibiotic Ophth Ointment (Neosporin)-3.5 gm	3.5 gm	1
Eye Wash Sterile-4 oz	4 oz	1
Nitro-Quick 0.4 mg Sublingual Tablets-25 tablets per	25	1
Hydrocortisone 1% Ointment-1 oz	1 oz	2
Ichthammol 10% Ointment-1 oz	1 oz	1
Insect Repellent Pump-2 oz	2 oz	2
Iodine Tincture 2% Mild-1 oz	1 oz	2
Milk Of Magnesia-12 oz	12 oz	2
Triple Antibiotic Ointment (Neosporin)-1 oz	1 oz	5
Electrolyte Tablets-100 tablets per	100	1
Acetaminophen 500 mg Tablets (Tylenol)-100 tablets per	100	1
Petrolatum Ointment-1 oz	1 oz	4
Proguanil 100 mg (Pauludrine)-100	100	1
Thermotabs (Enteric Coated Salt Tablets)-100 tablets per	100	10
Baby Powder J & J (Talc)-4 oz	4 oz	3
Antibiotic Otic Solution (Generic Cortisporin)-10 ml units	10 ml	1
Zinc Oxide Ointment-1 oz	1 oz	3
Eye Cup Glass-Each	Each	1
Funnel Stainless Steel-6 oz	6 oz	1
Cylinder Glass Double Scale-50 ml	50 ml	1
Cylinder Glass Double Scale-500 ml	500 ml	1
Stokes Litter Basket-Each	Each	1
Resuscitator Bag Adult Disp. W/Mask & Tubing-Each	Each	1
Sphygmomanometer Aneroid #115-Each	Each	1
Splint Inflatable Kit-4 per kit	Each	1
Finger Splint Padded Assorted Sizes-3-Each	Each	2

Product	Size	Quantity
Stethoscope Black-22"	22"	1
International Medical Guide For Ships-Each	Each	1
Medical First Aid/Dangerous Goods-Each	Each	1
International Health Regulations-Each	Each	1
Airway Kit Nasopharyngeal -5 Sizes w/Case	5 Sizes	1
	w/Case	
Forceps Dressing Bayonet-Shaped 7"-Each	Each	1
Forceps Splinter-3-1/2"	3-1/2"	1
Forceps Tissue 1x2 teeth-4-1/2"	4-1/2"	1
Scissors Bandage-7-1/2"	7-1/2"	1
Scissors Operating Straight Sharp/Sharp-5-1/2"	5-1/2"	1
Tape Micropore Paper 2" x 10 yd -Each	Each	1
Tape Micropore Paper 1" x 10 yd -Each	Each	1
Cotton Tipped Applicators 6"-100 per box	100	1
Elastic Bandage 3" x 4.5 yd -Each	Each	6
Elastic Bandage 2" x 4.5 yd -Each	Each	6
Elastic Bandage Cotton 2"-Each	Each	12
Flexilite Conforming Gauze Bandage 2"x4-1/2'-Each	Each	100
Flexilite Conforming Gauze Bandage 6"x4-1/2'-Each	Each	10
Flexilite Conforming Gauze Bandage 4"x4-1/2'-Each	Each	30
Gauze Telfa "Ouchless" Adhesive Pads 3"x4" Sterile-100 per	100	10
Band Aid Adhesive Surgical Dressing 8"x6"-Each	Each	5
Triangular Bandage-Each	Each	1
Surgitube #2 7/8" x 5 yd –Each	Each	2
Bandage Spray-3 oz	3 oz	1
Vaseline Dressing 3"x18"-Each	Each	1
Vaseline Dressing 3"x9"-Each	Each	2
Vaseline Dressing 6" x 36"-Each	Each	1
Bandage Compress 4" (1 Per Box)-Each	Each	5
Bandage Compress 2" (4 Per Box)-Each	Each	2
Bandage Compress 3" (2 Per Box)-Each	Each	5
Medical Report For Seafarers-Each	Each	50
Cotton Rolled Sterile-2 oz	2 oz	1
Cotton Rolled Sterile-1/2 oz	1/2 oz	5
Cotton Rolled Sterile-4 oz	4 oz	5
Finger Cots Assorted Sizes Sm., Med., & Large-12	12	1
Penlight Heavy Duty W/batteries-Each	Each	1
Surgitube #1 5/8" x 5 yd – Each	Each	1
Medicine Cups Plastic 1 oz-100	100	1
Surgipad Combine Dressing 8"x10" Sterile-Each	Each	3
Eye Pad Large Sterile-12 per	12	1
Gauze Pads Non-Adherent 3"x4" Sterile	Each	20
Safety Pins Assorted Sizes-50 per	50	1

Product	Size	Quantity
Brush (Surgeons Scrub)-Each	Each	1
Condoms Lubricated-Each	Each	30
Sheet waterproof 36x72"-Each	Each	1
Butterfly Closure Medium-100-Each	Each	1
Syringe & Needle 3 cc 21g x 1-1/2"-Each	Each	10
Syringe & Needle 5 cc 21g x 1-1/2"-Each	Each	10
Syringe & Needle 3 cc 25g x 5/8"-Each	Each	10
Kleenex-250 sheets per box	250 per box	1
Thermometer Dual Scale Oral-Each	Each	2
Tourniquet Grafkette Adult Size-Each	Each	1
Tongue Depressors Wood 6" Senior-Each	Each	20
"Sharps" Disposal Box-Each	Each	1

MINIMUM MANNING LEVELS FOR SMALL MOTOR YACHTS IN COMMERCIAL USE

This Annex gives information relating to the required manning and operation of small motor yachts in commercial use. The Administration recommends that operators of private yachts comply as well.

Safe Manning

1.0 Minimum Qualifications of the Person in Charge of the Yacht (Skipper) and of the Additional Persons required to be carried on board.

Miles from Safe haven	Personnel	No.	Minimum Qualification
Up to 20	Master	1	Coastal Skipper
Up to 60	Master	1	Yachtmaster Offshore
	Yacht Rating	1	
	The yacht rating should be deemed by the skipper to be experienced.		
Unlimited	Master	1	Yachtmaster Ocean
	Mate	1	Yachtmaster Offshore
	One of the persons referred to above, or another person, should be familiar with the operation and maintenance of the main propulsion and associated machinery of the yacht and should have attended an Approved Engine Course (AEC).		

2.0 Endorsement of Certificates

All certificates of competency may be endorsed by the Cook Islands Administration.

2.1 Radio Qualifications

Every yacht should carry at least one (1) person holding a Radio Operator's Certificate suitable for the radio equipment on board.

2.2. Medical Fitness Certificates

The skipper should hold a Medical Fitness Certificate, or an equivalent, issued by a licensed physician.

2.3 First Aid Certificate

Skippers or another member of the crew of yachts that operate up to and including the offshore area must hold a First Aid Certificate or a certificate issued by a voluntary society following the successful completion of a first aid course acceptable to the Administration.

Skippers of yachts operating in the unlimited area should hold a Medical Care Person In Charge Certificate unless another member of the crew holds a medical or nursing qualification of an equivalent or a higher standard.

3.0 Revalidation of Certificates and Licenses

All Yachtmaster Certificates should be revalidated every five (5) years. To revalidate, the applicant should prove at least 150 days of actual sea service on motor yachts during the previous five (5) years and be in possession of a valid Medical Fitness Certificate.

4.0 Approved Engine Course

An Approved Engine Course (AEC) is a shore-based course of at least thirty hours duration that is approved or recognised by the Administration. A "Certificate of Attendance" must be given by the course organizers to persons completing the course.

5.0 Responsibility of the Owner/owner's representative for Safe Manning of the Yacht

It is the responsibility of the owner/owner's representative to ensure that the skipper and, where necessary, the crew of the yacht have, in addition to any qualifications required in 2.0 above, recent and relevant experience with the type and size of yacht, the machinery on the yacht, and the type of operation in which the yacht is engaged. The owner/owner's representative should also ensure that there are sufficient additional crew on board having regard to the type and duration of voyage being undertaken.

6.0 Keeping a Safe Navigational Watch

It is the responsibility of the skipper to ensure that there is, at all times. a person with adequate experience in charge of the navigational watch. In taking this decision the skipper should take into account all the factors affecting the safety of the yacht, including:

- .1 the present and forecast state of the weather, visibility and sea;
- .2 the proximity of navigational hazards;
- .3 the density of traffic in the area.

7.0 Withdrawal of Certificate of Competency

The administration reserves the right to withdraw a Certificate of Competency at any time if due cause is shown.