

ISAF OFFSHORE SPECIAL REGULATIONS

Including US SAILING Prescriptions

Includes SF Bay OYRA Prescriptions

Extract for Race Category 2 Monohulls

JANUARY 2010 - DECEMBER 2013

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US Version 1B - 2010

Because this is an extract not all paragraph numbers will be present

Official interpretations shall take precedence over these Special Regulations and will be indexed, numbered, dated and displayed on the ISAF web site www.sailing.org/specialregs

RED TYPE indicates a significant changes in 2010

ISAF Guidance notes and recommendations are in italics

US SAILING prescriptions are printed in bold, italic letters

SF Bay OYRA prescriptions are printed in blue type

The use of the masculine gender shall be taken to mean either gender

SECTION 1 - FUNDAMENTAL AND DEFINITIONS

1.01 Purpose and Use

- 1.01.1 It is the purpose of these Special Regulations to establish uniform minimum equipment, accommodation and training standards for monohull and multihull yachts racing offshore. A Proa is excluded from these regulations.
- 1.01.2 These Special Regulations do not replace, but rather supplement, the requirements of governmental authority, the Racing Rules and the rules of Class Associations and Rating Systems. The attention of persons in charge is called to restrictions in the Rules on the location and movement of equipment.
- 1.01.3 These Special Regulations, adopted internationally, are strongly recommended for use by all organizers of offshore races. Race Committees may select the category deemed most suitable for the type of race to be sailed.

1.02 Responsibility of Person in Charge

- 1.02.1 **The safety of a yacht and her crew is the sole and inescapable responsibility of the person in charge who must do his best to ensure that the yacht is fully found, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather. He must be satisfied as to the soundness of hull, spars, rigging, sails and all gear. He must ensure that all safety equipment is properly maintained and stowed and that the crew know where it is kept and how it is to be used.**
- 1.02.2 Neither the establishment of these Special Regulations, their use by race organizers, nor the inspection of a yacht under these Special Regulations in any way limits or reduces the complete and unlimited responsibility of the person in charge.
- 1.02.3 **Decision to race -The responsibility for a yacht's decision to participate in a race or to continue racing is hers alone - RRS Fundamental Rule 4.**

1.03 Definitions, Abbreviations, Word Usage

1.03.1 Definitions of Terms used in this document

TABLE 1

Age Date	Month/year of first launch
AIS	Automatic Identification Systems
CEN	Comité Européen de Normalisation
CPR	Cardio-Pulmonary Resuscitation
Coaming	includes the transverse after limit of the cockpit over which water would run in the event that when the yacht is floating level the cockpit is flooded or filled to overflowing.
DSC	Digital Selective Calling
EN	European Norm
EPFS	Electronic Position-Fixing System
EPIRB	Emergency Position-Indicating Radio Beacon
FA Station	The transverse station at which the upper corner of the transom meets the sheerline.
Foul-Weather Suit	A foul weather suit is clothing designed to keep the wearer dry and maybe either a jacket and trousers worn together, or a single garment comprising jacket and trousers.
GMDSS	Global Maritime Distress & Safety System
GNSS	Global Navigation Satellite System
GPIRB	EPIRB, with integral GPS position-fixing
ITU	International Telecommunications Union
GPS	Global Positioning System
Hatch	The term hatch includes the entire hatch assembly and also the lid or cover as part of that assembly (the part itself may be described as a hatch).
INMARSAT	This is Inmarsat Global Limited, the private company that provides GMDSS satellite distress and safety communications, plus general communications via voice, fax and data
IMO	International Maritime Organisation
IMSO	The International Mobile Satellite Organisation, the independent, intergovernmental organisation that oversees Inmarsat's performance of its Public Service Obligations for the GMDSS and reports on these to IMO
ISAF	International Sailing Federation.
ISO	International Standard or International Organization for Standardization.
Lifeline	wire line rigged as guardrail / guardline around the deck
LOA	Length overall not including pulpits, bowsprits, boomkins etc.
LWL	(Length of) loaded waterline
Monohull	Yacht in which the hull depth in any section does not decrease towards the centre-line.
Moveable Ballast	Lead or other material including water which has no practical function in the boat other than to increase weight and/or to influence stability and/or trim and which may be moved transversely but not varied in weight while a boat is racing.

ORC	Offshore Racing Congress (formerly Offshore Racing Council)
OSR	Offshore Special Regulation(s)
Permanently Installed	Means the item is effectively built-in by eg bolting, welding, glassing etc. and may not be removed for or during racing.
PLB	Personal Locator Beacon
Proa	Asymmetric Catamaran
RRS	ISAF - Racing Rules of Sailing
SAR	Search and Rescue
SART	Search and Rescue Transponder
Series Date	Month & Year of first launch of the first yacht of the production series
SOLAS	Safety of Life at Sea Convention
Safety Line	A tether used to connect a safety harness to a strong point
Securely Fastened	Held strongly in place by a method (eg rope lashings, wing-nuts) which will safely retain the fastened object in severe conditions including a 180 degree capsize and allows for the item to be removed and replaced during racing
Static Ballast	Lead or other material including water which has no practical function in the boat other than to increase weight and/or to influence stability and/or trim and which may not be moved or varied in weight while a boat is racing.
Static Safety Line	A safety line (usually shorter than a safety line carried with a harness) kept clipped on at a work-station
Variable Ballast	Water carried for the sole purpose of influencing stability and/or trim and which may be varied in weight and/or moved while a boat is racing.

1.03.2 The words "shall" and "must" are mandatory, and "should" and "may" are permissive.

1.03.3 The word "yacht" shall be taken as fully interchangeable with the word "boat".

SECTION 2 - APPLICATION & GENERAL REQUIREMENTS

2.01 Categories of Events

In many types of race, ranging from trans-oceanic sailed under adverse conditions to short-course day races sailed in protected waters, six categories are established, to provide for differences in the minimum standards of safety and accommodation required for such varying circumstances:

2.01.3 Category 2

US SAILING prescribes that Category 2 races are of extended duration along or not far removed from shorelines, where a high degree of self-sufficiency is required of the yachts but with the reasonable probability that outside assistance would be available for aid in the event of serious emergencies. All OYRA races are category 2 races.

2.02 Inspection

A yacht may be inspected at any time. If she does not comply with these Special Regulations her entry may be rejected, or she will be liable to disqualification or such other penalty as may be prescribed by the national authority or the race organizers.

2.03 General Requirements

2.03.1 All equipment required by Special Regulations shall:-

- a) function properly
- b) be regularly checked, cleaned and serviced
- c) when not in use be stowed in conditions in which deterioration is minimized

d) be readily accessible

e) be of a type, size and capacity suitable and adequate for the intended use and size of the yacht.

2.03.2 Heavy items:

a) ballast, ballast tanks and associated equipment shall be permanently installed

b) heavy movable items including e.g. batteries, stoves, gas bottles, tanks, toolboxes and anchors and chain shall be securely fastened

c) heavy items for which fixing is not specified in Special Regulations shall be permanently installed or securely fastened, as appropriate

2.03.3 When to show navigation lights

a) navigation lights (OSR 3.27) shall be shown as required by the International Regulations for Preventing Collision at Sea, (Part C and Technical Annex 1). All yachts shall exhibit sidelights and a sternlight at the required times.

Navigation lights shall be shown from Sunset to Sunrise and when visibility is reduced to two miles or less.

SECTION 3 - STRUCTURAL FEATURES, STABILITY, FIXED EQUIPMENT

3.01 Strength of Build, Ballast and Rig

Yachts shall be strongly built, watertight and, particularly with regard to hulls, decks and cabin trunks capable of withstanding solid water and knockdowns. They must be properly rigged and ballasted, be fully seaworthy and must meet the standards set forth herein. Shrouds shall never be disconnected.

3.02 Watertight Integrity of a Hull

3.02.1 A hull, including, deck, coach roof, windows, hatches and all other parts, shall form an integral, essentially watertight unit and any openings in it shall be capable of being immediately secured to maintain this integrity.

3.02.2 Centreboard and daggerboard trunks and the like shall not open into the interior of a hull except via a watertight inspection/maintenance hatch of which the opening shall be entirely above the waterline of the yacht floating level in normal trim.

3.02.3 A canting keel pivot shall be completely contained within a watertight enclosure which shall comply with OSR 3.02.2. Access points in the watertight enclosure for control and actuation systems or any other purpose shall comply with OSR 3.02.1.

3.02.4 Moveable ballast systems shall be fitted with a manual control and actuation secondary system which shall be capable of controlling the full sailing load of the keel in the event of failure of the primary system. Such failures would include electrical and hydraulic failure and mechanical failure of the components and the structure to which it mounts. The system must be capable of being operational quickly and shall be operable at any angle of heel. It would be desirable if this system was capable of securing the keel on the centreline.

3.04 Stability - Monohulls

3.04.2 A yacht shall be designed and built to resist capsize.

3.04.3 *A race organizer should require compliance with a minimum stability or stability/buoyancy index. Attention is drawn to the stability index in the ORC Rules and Regulations.*

3.04.4 *Achievement of Design Category A under ISO 12217-2 may be accepted by a race organizer as a guide to general suitability for competition in a Special Regulations Category 2 race.*

3.04.5 *Use of the ISO or any other index does not guarantee total safety or total freedom of risk from capsize or sinking.*

3.04.6 For boats with moveable or variable ballast the method in OSR 3.04.4 shall apply plus the relevant additional requirement of OSR Appendix K.

3.04.7 Tanks for variable ballast shall be permanently installed and shall be provided with a system of isolating valves and pump(s) capable of manual operation at any angle of heel. A plan of the plumbing system shall be displayed aboard the boat.

3.06 Exits - Monohulls

TABLE 4

LOA	Earliest of Age or Series Date	Detail
8.5 m (28 ft) and over	January 1995 and after	Yachts shall have at least two exits. At least one exit shall be located forward of the foremost mast except where structural features prevent its installation.

3.08 Hatches & Companionways

3.08.1 No hatch forward of the maximum beam station, other than a hatch in the side of a coachroof, shall open in such a way that the lid or cover moves into the open position towards the interior of the hull (excepting ports having an area of less than 0.071m² (110 sq in)).

3.08.2 A hatch fitted forward of the maximum beam station, located on the side of the coachroof, opening into the interior of the boat, and of area greater than 0.071m² shall comply with ISO12216 design category A and and be clearly labelled and used in accordance with the following instruction: "NOT TO BE OPENED AT SEA" Attention is drawn to SR 3.02.1

3.08.3 A hatch shall be:

a) so arranged as to be above the water when the hull is heeled 90 degrees. Hatches over lockers that open to the interior of the vessel shall be included in this requirement. A yacht may have a maximum of four (two on each side of centerline) hatches that do not conform to this requirement, provided that the opening of each is less than 0.071 sq m (110 sq in). Effective for boats of a series begun after January 1, 2009, a written statement signed by the designer or other person who performed the downflooding analysis shall be carried on board. For purposes of this rule the vessel's displacement condition for the analysis shall be the Light Craft Condition LCC (in conformity with 6.3 of the EN ISO 8666 standard and 3.5.1 of the EN ISO12217-2 standard).

b) permanently attached

c) capable of being firmly shut immediately and remaining firmly shut in a 180 degree capsized (inversion)

3.08.4 A companionway hatch shall:

a) be fitted with a strong securing arrangement which shall be operable from the exterior and interior including when the yacht is inverted

b) have any blocking devices:

i) capable of being retained in position with the hatch open or shut

ii) whether or not in position in the hatchway, secured to the yacht (e.g. by lanyard) for the duration of the race, to prevent their being lost overboard

iii) permit exit in the event of inversion

3.08.5 If the companionway extends below the local sheerline and the boat has a cockpit opening aft to the sea the boat shall comply with one of the following:

a) the companionway sill shall not extend below the local sheerline. or

b) Hatch boards shall be secured while racing

3.08.6 For boats with a cockpit closed aft to the sea where the companionway hatch extends below the local sheerline, the companionway shall be capable of being blocked off up to the level of the local sheerline, provided that the companionway hatch shall continue to give access to the interior with

the blocking devices (e.g. washboards) in place

OYRA prescribes Hatch Boards shall be in good condition with means to secure. Deck Hatch shall be water tight. Locker Hatch shall be securable.

3.09 Cockpits

- 3.09.1 Cockpits shall be structurally strong, self-draining quickly by gravity at all angles of heel and permanently incorporated as an integral part of the hull.
- 3.09.2 Cockpits must be essentially watertight, that is, all openings to the hull must be capable of being strongly and rigidly secured
- 3.09.3 A bilge pump outlet pipe shall not be connected to a cockpit drain . See OSR 3.09.8 for cockpit drain minimum sizes
- 3.09.4 A cockpit sole shall be at least 2% LWL above LWL (or in IMS yachts first launched before 1/03, at least 2% L above LWL)
- 3.09.5 A bow, lateral, central or stern well shall be considered a cockpit for the purposes of OSR 3.09
- 3.09.6 In cockpits opening aft to the sea structural openings aft shall be not less in area than 50% maximum cockpit depth x maximum cockpit width.

3.09.7 Cockpit Volume

- i) earliest of age or series date before April 1992

the total volume of all cockpits below lowest coamings shall not exceed 9% (LWL x maximum beam x freeboard abreast the cockpit).

- ii) earliest of age or series date April 1992 and after

as above for the appropriate category except that "lowest coamings" shall not include any aft of the FA station and no extension of a cockpit aft of the working deck shall be included in calculation of cockpit volume

IMS-rated boats may instead of the terms LWL, maximum beam, freeboard abreast the cockpit, use the IMS terms L, B and FA.

3.09.8 Cockpit Drains

See OSR 3.09.1. Cockpit drain cross section area (after allowance for screens if fitted) shall be:-

- a) in yachts with earliest of age or series date before 1/72 or in any yacht under 8.5m (28ft) LOA - at least that of 2 x 25mm diameter (one inch) unobstructed openings or equivalent
- b) in yachts with earliest of age or series date 1/72 and later - at least that of 4 x 20mm diameter (3/4 inch) unobstructed openings or equivalent

US SAILING prescribes that cockpit drains shall be accessible for cleaning.

3.10 Sea Cocks or Valves

Sea cocks or valves shall be permanently installed on all through-hull openings below the waterline except integral deck scuppers, speed indicators, depth finders and the like, however a means of closing such openings shall be provided.

3.11 Sheet Winches

Sheet winches shall be mounted in such a way that an operator is not required to be substantially below deck.

3.12 Mast Step

The heel of a keel stepped mast shall be securely fastened to the mast step or adjoining structure.

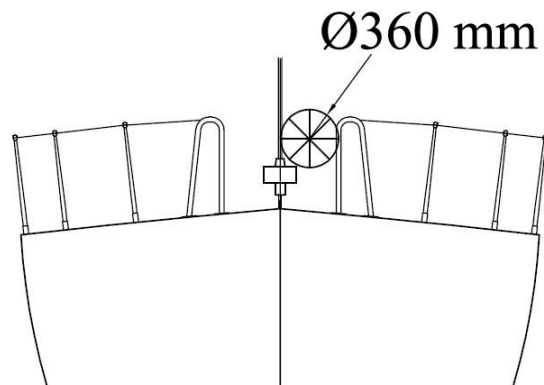
3.14 Pulpits, Stanchions, Lifelines

3.14.2 Lifelines required in Special Regulations shall be "taut".

- a) *As a guide, when a deflecting force of 50 N (5.1 kgf, 11.2 lbf) is applied to a lifeline midway between supports, the lifeline should not deflect more than 50 mm.*

3.14.3 The following shall be provided:

- a) a bow pulpit with vertical height and openings essentially conforming to Table 7. Bow pulpits may be open but the opening between the pulpit and any part of the boat shall never be greater than 360mm (14.2") (this requirement shall be checked by presenting a 360mm (14.2") circle inside the opening)



- b) a stern pulpit, or lifelines arranged as an adequate substitute, with vertical openings conforming to Table 7
- c) lifelines (guardlines) supported on stanchions, which, with pulpits, shall form an effectively continuous barrier around a working deck for man-overboard prevention. Lifelines shall be permanently supported at intervals of not more than 2.20m (86.6") and shall not pass outboard of supporting stanchions
- d) upper rails of pulpits at no less height above the working deck than the upper lifelines as in Table 7.
- e) Openable upper rails in bow pulpits shall be secured shut whilst racing
- f) Pulpits and stanchions shall be permanently installed. When there are sockets or studs, these shall be through-bolted, bonded or welded. The pulpit(s) and/or stanchions fitted to these shall be mechanically retained without the help of the life-lines. Without sockets or studs, pulpits and/or stanchions shall be through-bolted, bonded or welded.
- g) The bases of pulpits and stanchions shall not be further inboard from the edge of the appropriate working deck than 5% of maximum beam or 150 mm (6 in), whichever is greater.
- h) Stanchion or pulpit or pushpit bases shall not be situated outboard of a working deck. For the purpose of this rule the base shall be taken to include a sleeve or socket into which the tube is fitted but shall exclude a baseplate which carries fixings into the deck or hull.
- i) Provided the complete lifeline enclosure is supported by stanchions and pulpit bases effectively within the working deck, lifeline terminals and support struts may be fixed to a hull aft of the working deck
- j) Lifelines need not be fixed to a bow pulpit if they terminate at, or pass through, adequately braced stanchions set inside and overlapping the bow pulpit, provided that the gap between the upper lifeline and the bow pulpit does not exceed 150 mm (6 in).
- k) Lifelines shall be continuous and fixed only at (or near) the bow and stern. However a bona fide gate shall be permitted in the lifelines on each side of a yacht. Except at its end fittings, the movement of a lifeline in a fore-and-aft direction shall not be constrained. Temporary sleeving in 3.14.6 (c) shall not modify tension in the lifeline.
- l) Stanchions shall be straight and vertical except that:-
- i within the first 50 mm (2 in) from the deck, stanchions shall not be displaced horizontally from the point at which they emerge from the deck or stanchion base by more than 10 mm

(3/8 in),and

ii stanchions may be angled to not more than 10 degrees from vertical at any point above 50 mm (2 in) from the deck.

m) *It is strongly recommended that designs also comply to ISO 15085*

3.14.5 Lifeline Height, Vertical Openings, Number of Lifelines

TABLE 7

LOA	earliest of age/seriesdate	minimum requirements	Category
under 8.5 m(28 ft)	before January 1992	taut single lifeline at a height of no less than 450 mm (18 in) above the working deck. No vertical opening shall exceed 560 mm (22 in).	**
under 8.5 m(28 ft)	January 1992and after	as for under 8.5 m(28 ft) in table 7 above, except that when an intermediate lifeline is fitted no vertical opening shall exceed 380 mm (15 in).	**
8.5 m (28 ft) and over	before January 1993	taut double lifeline with upper lifeline at a height of no less than 600 mm (24 in) above the working deck. No vertical opening shall exceed 560 mm (22 in)	**
8.5 m (28 ft)and over	January 1993 and after	as 8.5 m (28 ft) and over in Table 7 above, except that no vertical opening shall exceed 380 mm (15 in).	**
all	all	on yachts with intermediate lifelines the intermediate line shall be not less than 230 mm (9 in) above the working deck	**
		<i>and shall be of the same construction and general arrangements as required for the upper.</i>	

3.14.6 Lifeline Minimum Diameters, Required Materials, Specifications

a) Lifelines shall be of :

- stranded stainless steel wire or
- single-braided Dyneema® rope

US SAILING note. An article describing the best techniques for using Dyneema line, particularly in the life line application, is posted at <http://offshore.ussailing.org/SAS.htm>

b) The minimum diameter of all lifelines is specified in table 8 below.

c) Stainless steel lifelines shall be uncoated and used without close-fitting sleeving, however, temporary sleeving may be fitted provided it is regularly removed for inspection.

d) *When stainless wire is used, Grade 316 is recommended.*

e) *When Dyneema® is used, Grade SK75 or SK78 is recommended.*

f) A taut lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does not exceed 100 mm (4 in). This lanyard shall be replaced annually at a minimum.

g) All wire, fittings, anchorage points, fixtures and lanyards shall comprise a lifeline enclosure system which has at all points at least the breaking strength of the required lifeline wire.

TABLE 8

LOA	minimum wire or rope diameter
under 8.5 m (28ft)	3 mm (1/8 in)
8.5m - 13 m	4 mm (5/32 in)
over 13 m (43 ft)	5 mm (3/16 in)

3.14.7 Pulpits, Stanchions, Lifelines - Limitations on Materials

TABLE 9

Earliest of Age or Series Date	detail
before January 1987	carbon fibre is not recommended in stanchions pulpits and lifelines.
January 1987 and after	stanchions, pulpits and lifelines shall not be made of carbon fibre.

OYRA prescribes for boats less than 30' the requirement for lifelines and pulpits is waived provided jackstays are installed.

Toe Rail or Foot - Stop

3.17.1 A toe rail of minimum height 25 mm (1 in) shall be permanently installed around the foredeck from abreast the mast, except in way of fittings and not further inboard from the edge of the working deck than one third of the local half-beam.

3.17.2 The following variations shall apply:-

TABLE 10

LOA	Earliest of Age or Series Date	minimum requirements
any	before January 1981	a toe rail minimum height of 20 mm (3/4 in) is acceptable.
any	before January 1993	an additional lifeline of minimum height 25 mm (1 in) and maximum height 50 mm (2 in) is acceptable in lieu of a toe rail (but shall not count as an intermediate lifeline).
any	January 1994 and after	the toe rail shall be fitted as close as practicable to the vertical axis of stanchion bases but not further inboard than 1/3 the local half-beam.

3.18 Toilet

3.18.1 A toilet, permanently installed
OYRA prescribes that a fitted bucket is acceptable.

3.19 Bunks

3.19.2 Bunks, permanently installed

3.20 Cooking Facilities

3.20.1 A cooking stove, permanently installed or securely fastened with safe accessible fuel shutoff control and capable of being safely operated in a seaway.
OYRA prescribes cooking stove capable of being safely operated at sea is recommended but not required.

3.21 Drinking Water Tanks & Drinking Water

3.21.1 Drinking Water Tanks

a) A yacht shall have a permanently installed delivery pump and water tank(s):

OYRA prescribes the requirement for permanently installed delivery pump and water tank is waived.

3.21.3 Emergency Drinking Water

- a) At least 9 litres (2 UK gallons, 2.4 US gallons) of drinking water for emergency use shall be provided in a dedicated and sealed container or container(s)

3.22 Hand Holds

Adequate hand holds shall be fitted below deck so that crew members may move about safely at sea.

A hand hold should be capable of withstanding without rupture a side force of 1500N - attention is drawn to ISO 15085.

3.23 Bilge Pumps and Buckets

3.23.1 No bilge pump may discharge into a cockpit unless that cockpit opens aft to the sea.

3.23.2 Bilge pumps shall not be connected to cockpit drains. (OSR 3.09)

3.23.3 Bilge pumps and strum boxes shall be readily accessible for maintenance and for clearing out debris

3.23.4 Unless permanently installed, each bilge pump handle shall be provided with a lanyard or catch or similar device to prevent accidental loss

3.23.5 The following shall be provided:

- a) Two permanently installed manual bilge pumps, one operable from above, the other from below deck. Each pump shall be operable with all cockpit seats, hatches and companionways shut and shall have permanently installed discharge pipe(s) of sufficient capacity to accommodate simultaneously both pumps

OYRA prescribes for boats under 30' at least one permanently installed manual bilge pump of 10 gallons per minute capacity operable with all hatches and companionways closed.

- f) Two buckets of stout construction each with at least 9 litres (2 UK gallons, 2.4 US gallons) capacity. Each bucket to have a lanyard.

3.24 Compass

3.24.1 The following shall be provided:-

- a) a marine magnetic compass, independent of any power supply, permanently installed and correctly adjusted with deviation card, and
- b) a compass which may be hand-held

3.25 Halyards.

No mast shall have less than two halyards, each capable of hoisting a sail.

Boom Support. US SAILING prescribes that some means must exist to prevent the boom from dropping if support from the mainsail and/or halyard fails. Topping lifts or supporting vang are acceptable for this purpose.

3.27 Navigation Lights (see OSR 2.03.3)

3.27.1 Navigation lights shall be mounted so that they will not be masked by sails or the heeling of the yacht.

3.27.2 Navigation lights shall not be mounted below deck level and should be at no less height than immediately under the upper lifeline.

3.27.3 Navigation light intensity

TABLE 11

LOA	Guide to required minimum power rating for an electric bulb in a navigation light
under 12 m (39.4 ft)	10 W
12 m (39.4 ft) and above	25 W

US SAILING prescribes that in the US compliance with the recommendations of COLREGS shall suffice in satisfying these regulations. COLREGS requirements are as follows;

Table 14

LOA	Light	Luminous	Minimum Range of Visibility
under 39.4 ft	Side	0.9 candelas	1 mile
	Stern	4.3 candelas	2 miles
39.4 ft and above	Side	4.3 candelas	2 miles
and less than 164 ft	Stern	4.3 candelas	2 miles

3.27.4 Reserve navigation lights shall be carried having the same minimum specifications as the navigation lights above, with a separable power source, and wiring or supply system essentially separate from that used for the normal navigation lights

3.27.5 spare bulbs for navigation lights shall be carried, or for lights not dependent on bulbs, appropriate spares.

3.28 Engines, Generators, Fuel

3.28.1 Propulsion Engines

a) Engines and associated systems shall be installed in accordance with their manufacturers' guidelines and shall be of a type, strength, capacity, and installation suitable for the size and intended use of the yacht.

b) An inboard propulsion engine when fitted shall: be provided with a permanently installed exhaust, coolant, and fuel supply systems and fuel tank(s); be securely covered; and have adequate protection from the effects of heavy weather.

c) A propulsion engine required by Special Regulations shall provide a minimum speed in knots of (1.8 x square root of LWL in metres) or (square root of LWL in feet)

e) An inboard propulsion engine shall be provided for yachts

The requirement for permanently installed propulsion engine and fuel tanks is waived. A boat must have either an inboard or outboard engine and fuel for eight hours of operation meeting the performance specifications above.

3.28.3 Fuel Systems

a) Each fuel tank provided with a shutoff valve. Except for permanently installed linings or liners, a flexible tank is not permitted as a fuel tank.

b) The propulsion engine shall have a minimum amount of fuel which may be specified in the Notice of Race but if not, shall be sufficient to be able to meet charging requirements for the duration of the race and to motor at the above minimum speed for at least 8 hours

3.28.4 Battery Systems

a) When an electric starter is the only method for starting the engine, the yacht shall have a

separate battery, the primary purpose of which is to start the engine

c) It is recommended that consideration be given to the installation of sealed batteries, noting however that a special charging device may be specified by the battery manufacturers

3.29 Communications Equipment, EPFS (Electronic Position-Fixing System), Radar, AIS

Provision of GMDSS and DSC is unlikely to be mandatory for small craft during the term of the present Special Regulations However it is recommended that persons in charge include these facilities when installing new equipment.

3.29.1 The following shall be provided:

a) A marine radio transceiver (or if stated in the Notice of Race, an installed satcom terminal), and

i an emergency antenna when the regular antenna depends upon the mast.

b) When the marine radio transceiver is VHF:

i it shall have a rated output power of 25W

ii it shall have a masthead antenna, and co-axial feeder cable with not more than 40% power loss

iii the following types and lengths of co-axial feeder cable will meet the requirements of OSR 3.29.1 (b)(ii): (a) up to 15m (50ft) - type RG8X ("mini 8"); (b) 15-28m (50-90ft) - type RG8U; (c) 28-43m (90-140ft) - type 9913F (uses conventional connectors, available from US supplier Belden); (d) 43-70m 140-230ft - type LMR600 (uses special connectors, available from US supplier Times Microwave).

iv it should include channel 72 (an international ship-ship channel which, by common use, has become widely accepted as primary choice for ocean racing yachts anywhere in the world)

e) A hand-held marine VHF transceiver, watertight or with a waterproof cover. When not in use to be stowed in a grab bag or emergency container (see OSR 4.21)

f) Independent of a main radio transceiver, a radio receiver capable of receiving weather bulletins

i) An EPFS (Electronic Position-Fixing System) (e.g. GPS)

n) **An AIS Transponder**

OYRA prescribes that an AIS transponder is not required but that an AIS receiver is recommended.

OYRA prescribes that a Cell phone in a waterproof container must be carried on each yacht.

3.29.2 *Yachts are reminded that no reflector, active or passive, is a guarantee of detection or tracking by a vessel using radar.*

a) *The attention of persons in charge is drawn to legislation in force or imminent affecting the territorial seas of some countries in which the carriage of an AIS set is or will be mandatory for certain vessels including relatively small craft.*

SECTION 4 - PORTABLE EQUIPMENT & SUPPLIES for the yacht (for water & fuel see OSR 3.21 and OSR 3.28)

4.01 Sail Letters & Numbers

4.01.1 Yachts which are not in an ISAF International Class or Recognized Class shall comply with RRS 77 and Appendix G as closely as possible, except that sail numbers allotted by a State authority are acceptable .

4.01.2 Sail numbers and letters of the size carried on the mainsail must be displayed by alternative means when none of the numbered sails is set.

4.03 Soft Wood Plugs

Soft wood plugs, tapered and of the appropriate size, shall be attached or stowed adjacent to the appropriate fitting for every through-hull opening.

4.04 Jackstays, Clipping Points and Static Safety Lines

4.04.1 The following shall be provided:

a) Jackstays:-

shall be provided-

i attached to through-bolted or welded deck plates or other suitable and strong anchorage fitted on deck, port and starboard of the yacht's centre line to provide secure attachments for safety harness:-

ii comprising stainless steel 1 x 19 wire of minimum diameter 5 mm (3/16 in), or webbing of equivalent strength;

US SAILING prescribes that wire jackstays may be of configurations other than 1 X 19.

iii which, when made from stainless steel wire shall be uncoated and used without any sleeving;

iv 20kN (2,040 kgf or 4,500 lbf) min breaking strain webbing is recommended;

4.04.2 Clipping Points:-

shall be provided-

a) attached to through-bolted or welded deck plates or other suitable and strong anchorage points adjacent to stations such as the helm, sheet winches and masts, where crew members work for long periods:-

b) which, together with jackstays and static safety lines shall enable a crew member-

i to clip on before coming on deck and unclip after going below;

ii whilst continuously clipped on, to move readily between the working areas on deck and the cockpit(s) with the minimum of clipping and unclipping operations.

c) The provision of clipping points shall enable two-thirds of the crew to be simultaneously clipped on without depending on jackstays

e) Warning - U-bolts as clipping points - see OSR 5.02.1(a)

4.05 Fire Extinguishers

Shall be provided as follows:

4.05.1 Fire extinguishers, at least two, readily accessible in suitable and different parts of the yacht

4.05.2 Fire Extinguishers, at least two, of minimum 2kgs each of dry powder or equivalent

4.06 Anchor(s)

4.06.1 An anchor or anchors shall be carried according to the table below:

a) The following anchors shall be provided

i For yachts of 8.5 m LOA (28 ft) and over there shall be 2 anchors together with a suitable combination of chain and rope, all ready for immediate use

ii For yachts under 8.5 m LOA (28 ft) there shall be 1 anchor together with a suitable combination of chain and rope, all ready for immediate use

4.07 Flashlight(s)

4.07.1 The following shall be provided:-

a) a watertight, high-powered flashlight or spotlight, with spare batteries and bulbs, and

b) a watertight flashlight with spare batteries and bulb

4.08 First Aid Manual and First Aid Kit

4.08.1 A suitable First Aid Manual shall be provided

In the absence of a National Authority's requirement, the latest edition of one of the following is recommended:-

b) First Aid at Sea, by Douglas Justins and Colin Berry, published by Adlard Coles Nautical, London

c) Le Guide de la medecine a distance, by Docteur J Y Chauve, published by Distance Assistance BP33 F-La Baule, cedex, France. An English translation may be available.

US SAILING endorses the above and additionally recommends the following manuals: Advanced First Aid by Peter Eastman, M.D., Cornell Maritime Press and A Comprehensive Guide to Marine Medicine by Eric A. Weiss, M.D. and Michael E. Jacobs, M.D., Adventure Medical Kit.

4.08.2 A First Aid Kit shall be provided

4.08.3 *The contents and storage of the First Aid Kit should reflect the guidelines of the Manual carried, the likely conditions and duration of the passage, and the number of people aboard the yacht.*

4.09 Foghorn

A foghorn shall be provided

4.10 Radar Reflector, AIS (Automatic Identification System)

4.10.1 A passive Radar Reflector (that is, a Radar Reflector without any power) shall be provided

a) If a radar reflector is octahedral it must have a minimum diagonal measurement of 456 mm (18in), or if not octahedral must have a documented RCS (radar cross-section) of not less than 10 m². The minimum effective height above water is 4.0 m (13 ft).

US SAILING prescribes that in the US, radar reflectors shall have a minimum documented "equivalent echoing area" of 6 sq. m. Octahedral reflectors shall have a minimum diameter of 12 inches.

b) The passive and active devices referred to in these notes and in 4.10.1 and 4.10.2 above are primarily intended for use in the X (9GHz) band

4.10.2 *The most effective radar response from a yacht may be provided by an RTE (Radar Target Enhancer) which may be on board in addition to the required passive reflector. An RTE should conform to Recommendation ITU-R 1176. An RTE is strongly recommended.*

b) The display of a passive reflector or the operation of an RTE is for the person in charge to decide according to prevailing conditions.

4.10.3 *A passive reflector in compliance with revised ISO8729 (revision in progress at 1/06) offers improved performance over earlier models and has a size typified by a cylinder of not more than weight 5kg, height 750mm and dia 300mm. When revised ISO 8729 is published the Special Regulations regarding radar reflectors will be reviewed and may be changed.*

4.10.4 *S (3GHz) band radar is often used by ships to complement X (9GHz) band radar. On S (3GHz) band a conventional reflector or RTE offers about 1/10 the response obtained on the X (9GHz) band.*

4.11 Navigation Equipment

4.11.1 Charts

Navigational charts (not solely electronic), light list and chart plotting equipment shall be provided

4.12 Safety Equipment Location Chart

A safety equipment location chart in durable waterproof material shall be displayed in the main accommodation where it can best be seen, clearly marked with the location of principal items of safety equipment.

4.13 Echo Sounder or Lead Line

4.13.1 An echo sounder or lead line shall be provided

4.14 Speedometer or Distance Measuring Instrument (log)

A speedometer or distance measuring instrument (log) shall be provided

4.15 Emergency Steering

4.15.1 Emergency steering shall be provided as follows:

- a) except when the principal method of steering is by means of an unbreakable metal tiller, an emergency tiller capable of being fitted to the rudder stock;
- b) crews must be aware of alternative methods of steering the yacht in any sea condition in the event of rudder loss. At least one method must have been proven to work on board the yacht. An inspector may require that this method be demonstrated.

4.16 Tools and Spare Parts

Tools and spare parts, including effective means to quickly disconnect or sever the standing rigging from the hull shall be provided.

4.17 Yacht's name

Yacht's name shall be on miscellaneous buoyant equipment, such as lifejackets, cushions, lifebuoys, lifeslings, grab bags etc.

4.18 Marine grade retro-reflective material

Marine grade retro-reflective material shall be fitted to lifebuoys, lifeslings, liferafts and lifejackets. See OSRs 5.04, 5.08.

4.19 EPIRBs

4.19.1 A 406 MHz EPIRB shall be provided

- b) It is recommended that a 406 MHz EPIRB should include an internal GPS, and also a 121.5MHz transmitter for local homing.*
- c) Every 406 MHz EPIRB shall be properly registered with the appropriate authority.
- d) EPIRBs should be tested in accordance with manufacturer's instructions when first commissioned and then at least annually.*
- e) A list of registration numbers of 406 EPIRBs should be notified to event organizers and kept available for immediate use.*
- f) Consideration should be given to the provision of a locator device (eg an "Argos" beacon) operating on non - SAR frequencies, to aid salvage if a yacht is abandoned.*
- g) Beacons with only 121.5MHz are no longer recommended for distress alerting. Satellite processing of 121.5 MHz is being phased out. 121.5MHz will continue to be used for local homing by on-board D/F systems and for local homing by SAR units. Type "E" EPIRBs are no longer supported and should be replaced immediately.*

US SAILING requires the use of 406 EPIRBs (with or without GPS input), as USCG advises that rescue efforts will be launched immediately upon receipt of a distress signal from these units. USCG also advises that PLB and INMARSAT "E" transmissions are not monitored by U.S. Rescue Coordination Centers and that slight delays are likely to occur while the commercial ground stations forward an alert to the USCG.

The Requirement for a 406 MHz EPIRB is amended to say that a 406 MHz EPIRB OR a 406 MHz PLB unit shall be provided. All EPIRB/PLB Devices must be properly registered with the appropriate authority.

4.20 Liferafts

OYRA prescribes that unless specifically designated in the Notice of Race the requirement for a life raft is waived. For specifically designated long distance Offshore Races, a life raft capable of carrying the entire crew which must have a valid annual certificate from the manufacturer or an

approved agent certifying that it has been inspected and stating the official capacity of the raft that shall not be exceeded.

4.21.2 Grab Bags to Accompany Liferrafts

Grab bags requirements are waived.

4.22 Lifebuoys

4.22.1 The following shall be provided within easy reach of the helmsman and ready for instant use:

- a) a lifebuoy with a self-igniting light and a drogue or a Lifesling with a self-igniting light and without a drogue.

For Categories 0,1,2,3 US SAILING prescribes that the lifebuoy in OSR 4.22.1 a) above shall be a Lifesling (without a drogue), equipped with a self-igniting light within easy reach of the helmsman and ready for instant use. (See Appendix D).

- b) In addition to a) above, one lifebuoy within easy reach of the helmsman and ready for instant use, equipped with:**

- i a whistle, a drogue, a self-igniting light and
- ii a pole and flag. The pole shall be either permanently extended or be capable of being fully automatically extended (not extendable by hand) in less than 20 seconds. It shall be attached to the lifebuoy with 3 m (10 ft) of floating line and is to be of a length and so ballasted that the flag will fly at least 1.8 m (6 ft) off the water.

4.22.2 When at least two lifebuoys (and/or Lifeslings) are carried, at least one of them shall depend entirely on permanent (eg foam) buoyancy.

4.22.3 Each inflatable lifebuoy and any automatic device (eg pole and flag extended by compressed gas) shall be tested and serviced at intervals in accordance with its manufacturer's instructions.

4.22.4 Each lifebuoy or lifesling shall be fitted with marine grade retro-reflective material (4.18).

4.23 Pyrotechnic and Light Signals

4.23.1 Pyrotechnic signals shall be provided conforming to SOLAS LSA Code Chapter III Visual Signals. OYRA prescribes that for yachts under its jurisdiction, SOLAS flares may not be more than 6 years old except orange smoke flares which may not be more than 10 years old.

red parachute flares LSA III 3.1	red hand flares LSA III 3.2	orange smoke LSA III 3.3	race category
4	4	2	MoMu2,3

TABLE 13

4.23.2 The following lights shall be provided and readily available for the purpose of collision avoidance:

- a) a watertight white torch (flashlight) with spare batteries and bulb
- b) a watertight, high-powered white spotlight (searchlight) with spare batteries and bulbs

4.24 Heaving Line

- a) a heaving line shall be provided 15 m - 25 m (50 ft - 75 ft) length readily accessible to cockpit.
- b) the "throwing sock" type is recommended - see Appendix D

US SAILING prescribes that the heaving line be of 1/4 in. (6 mm) minimum diameter, floating, UV-inhibited and readily accessible to the cockpit.

4.25 Cockpit Knife

A strong, sharp knife, sheathed and securely restrained shall be provided readily accessible from the deck or a cockpit.

4.26 Storm & Heavy Weather Sails

OYRA prescribes storm & heavy weather sail requirements are waived and the following substituted: One heavy weather jib sized for the boat is required if boat is equipped to carry a headsail. Main sails sufficiently strong for heavy weather and able to be reefed with adequate trimming devices to handle heavy weather conditions.

4.28 Man Overboard Alarm

4.28.2 A yacht is recommended to be equipped with an EPFS (e.g. GPS) capable of immediately recording a man overboard position from each helm station

4.28.3 A yacht shall be equipped with an EPFS (e.g. GPS) capable of immediately recording a man overboard position from each helm station (From January 2012)

SECTION 5 - PERSONAL EQUIPMENT

5.01 Lifejacket

5.01.1 Each crew member shall have a lifejacket as follows:-

a) In accordance with ISO 12402 – 3 (Level 150) or equivalent,

ISO 12402 requires Level 150 lifejackets to be fitted with a mandatory whistle and retro-reflective material. Also, when fitted with a safety harness, ISO 12402 requires that this shall be the full safety harness in accordance with ISO 12401. Any equivalent lifejacket shall have equal requirements.

Note: persons of larger than average build are generally more buoyant than those of average build and so do not require a lifejacket with greater levels of flotation. Wearing a Level 275 lifejacket may hamper entry into liferafts.

b) fitted with either a crotch strap(s) / thigh straps or a full safety harness in accordance with ISO 12401,

US SAILING prescribes that OSR 5.01.1 (b) shall not apply but recommends that lifejackets have a crotch strap or thigh straps until 1 January 2014 when crotch strap(s)/thigh straps will be required.

Crotch straps or thigh straps together with related fittings and fixtures should be strong enough to lift the wearer from the water.

c) fitted with a lifejacket light in accordance with SOLAS LSA code 2.2.3 (white, >0.75 candelas, >8 hours),

d) if inflatable have a compressed gas inflation system,

e) if inflatable, regularly checked for gas retention,

f) compatible with the wearer's safety harness,

g) clearly marked with the yacht's or wearer's name,

It is strongly recommended that a lifejacket has:

j) a splashguard / sprayhood See ISO 12402 – 8,

k) a PLB unit (as with other types of EPIRB, should be properly registered with the appropriate authority)

l) if of a gas inflatable type, a spare cylinder and if appropriate a spare activation head

5.01.4 The person in charge shall personally check each lifejacket at least once annually.

US SAILING prescribes that for Categories 0, 1, 2, 3 either a Type 1 U.S. Coast Guard approved flotation device or an inflatable personal flotation device meeting the definition in the above paragraph and manufactured to either British National or European Community standards. Each inflatable device should be inflated and inspected annually. Service dates shall be marked on the flotation devices. This inflatable device may be integrated with a safety harness (see OSR 5.02).

US SAILING prescribes that all personnel on deck shall wear personal floatation while starting and finishing without exception, and at all other times except when the Captain of the boat directs that it may be set aside.

OYRA prescribes that adequate personal flotation will be worn at all times while on deck.

US SAILING note: As is true of all of these regulations, the prescriptions above do not necessarily replace the requirements of other governing authorities.

5.02 Safety Harness and Safety Lines (Tethers)

5.02.1 Each crew member shall have a harness and safety line that complies with ISO 12401 or equivalent with a safety line not more than 2m in length.

Harnesses and safety lines manufactured prior to Jan 2010 shall comply with either ISO 12401 or EN 1095.

Harnesses and safety lines manufactured prior to Jan 2001 are not permitted.

US SAILING prescribes that harnesses and safety lines manufactured prior to Jan 2001 are not recommended in the U.S.

a) Warning it is possible for a plain snaphook to disengage from a U bolt if the hook is rotated under load at right-angles to the axis of the U-bolt. For this reason the use of snaphooks with positive locking devices is strongly recommended.

5.02.2 At least 30% of the crew shall each, in addition to the above be provided with either:-

a) a safety line not more than 1m long, or

b) a mid-point snaphook on a 2m safety line

5.02.3 A safety line purchased in January 2001 or later shall have a coloured flag embedded in the stitching, to indicate an overload. A line which has been overloaded shall be replaced as a matter of urgency.

5.02.4 A crew member's lifejacket and harness shall be compatible

5.02.5 *It is strongly recommended that:-*

a) static safety lines should be securely fastened at work stations;

b) A harness should be fitted with a crotch strap or thigh straps. Crotch straps or thigh straps together with related fittings and fixtures should be strong enough to lift the wearer from the water.

Note: Before the end of 03/10 ISAF will publish recommended minimum breaking strains which for equipment purchased on or after 01/11 will be mandatory. Effective January 2011, a harness shall be fitted with crotch or thigh straps.

c) to draw attention to wear and damage, stitching on harness and safety lines should be of a colour contrasting strongly with the surrounding material;

d) snaphooks should be of a type which will not self-release from a U-bolt (see OSR 5.02.1(a)) and which can be easily released under load (crew members are reminded that a personal knife may free them from a safety line in emergency);

e) a crew member before a race should adjust a harness to fit then retain that harness for the duration of the race.

US SAILING prescribes that the safety harness may be integrated with an inflatable personal floatation device (see OSR 5.01) and recommends that such devices be employed whenever conditions warrant, and always in rough weather, on cold water, or at night, or under conditions of reduced visibility or when sailing short-handed.

5.02.6 *Warning - a safety harness is not designed to tow a person in the water and it is important that a harness is used to minimise or eliminate the risk of a person's torso becoming immersed in water outside the boat. The diligent use of a properly adjusted safety harness is regarded as by far the most effective way of preventing man overboard incidents.*

5.04 Foul Weather Suits

b) it is recommended that a foul weather suit should be fitted with marine-grade retro-reflective material, and should have high-visibility colours on its upper parts and sleeve cuffs. See OSR 4.18

OYRA requires Foul Weather Suit for each crewmember.

5.05 OYRA requires a knife for each crewmember and recommends that it be carried while on deck.

5.07 Survival Equipment

d) Attention is drawn to the value of keeping on the person a combined 406MHz/121.5MHz PLB when on deck: this may aid location in a man overboard incident independent of the equipment carried by the parent vessel

e) All PLB units, as with other types of EPIRB, should be properly registered with the appropriate authority

5.08 OYRA requires a Man-Overboard practice

5.09 Annual Man-Overboard Practice

US SAILING prescribes that the "Quick-Stop" man-overboard procedure shall be practiced aboard the yacht at least once annually. A certificate of such practice shall be signed by participating crew members and kept aboard the yacht.

5.10 CPR Training

US SAILING recommends that at least two members of the crew be currently certified in cardiopulmonary resuscitation.

5.11 Preventer or Boom Restraining Device

US SAILING recommends that a preventer or boom restraining device should be rigged in such a manner that attachment can be easily and quickly made, with the boom fully extended (running) without leaving the deck or leaning overboard. A process and plan for its use should be part of the crew's training and practice. Recommended for all boats in all categories.

SECTION 6 – TRAINING

6.04 Routine Training On-Board

6.04.1 *It is recommended that crews should practice safety routines at reasonable intervals including the drill for man-overboard recovery*

OYRA prescribes that Safety @ Sea training is strongly recommended.

6.05.3 At least one member of the crew shall be familiar with First Aid procedures, hypothermia and relevant communications systems (see OSR 6.02.7, 6.03.4)

APPENDICES TO SPECIAL REGULATIONS

Appendix B - A guide to ISO and other Standards

Appendix C - Standard Inspection Card

Appendix D - Quickstop & Lifesling

Appendix E - Hypothermia

Appendix F - Drogues and sea anchors

Appendix K - Moveable and Variable Ballast

These documents are available at <http://www.sailing.org/specialregulations.php>

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