



## 2020 Safety Equipment Requirements

for all AIS/WYC sponsored races except Bayfield Race Week Revised 3/31/2020

The following Safety Equipment Requirements are adapted from the US Sailings "US Safety Equipment Requirements" effective 1/1/2020 and replace the ISAF/ORC Offshore Special Regulations. Note that gaps in the numbering sequence are due to Ocean or Nearshore requirements not applicable to the AIS/WYC requirements. Special attention should be made to items 1.1 – 1.4. Published by AIS/WYC Station Inc.

**1.0.1 Ocean:** Long distance races, well offshore, where rescue may be delayed

**1.0.2 Coastal:** Races not far removed from shorelines, where rescue is likely to be quickly available

**1.0.3 Nearshore:** Races primarily sailed during the day, close to shore, in relatively protected waters.

**1.1** The Safety Equipment Requirements establish uniform minimum equipment and training standards for a variety of boats racing in differing conditions. These regulations do not replace, but rather supplement, the requirements of applicable local or national authority for boating, the Racing Rules of Sailing, the rules of Class Associations and any applicable rating rules.

**1.2** The safety of a boat and her crew is the sole and inescapable responsibility of the "person in charge", as per RRS 46, who shall ensure that the boat is seaworthy and manned by an experienced crew with sufficient ability and experience to face bad weather. S/he shall be satisfied as to the soundness of hull, spars, rigging, sails and all gear. S/he shall ensure that all safety equipment is at all times properly maintained and safely stowed and that the crew knows where it is kept and how it is to be used.

**1.3** A boat may be inspected at any time by an equipment inspector or measurer appointed for the event. If she does not comply with these regulations, her entry may be rejected or she will be subject to a protest filed by the RC. A Violation of the Safety Equipment Requirements may result in a penalty other than disqualification.

**1.4** All equipment required shall function properly, be regularly checked, cleaned and serviced, and be of a type, size and capacity suitable for the intended use and size of the boat and the size of the crew. This equipment shall be readily accessible while underway and, when not in use, stored in such a way that deterioration is minimized.

**1.5** A boat's heavy items such as batteries, stoves, toolboxes, anchors, chain and internal ballast shall be secured.

**1.6** A boat shall be strongly built, watertight and, particularly with regard to hulls, decks and cabin trunks, capable of withstanding solid water and knockdowns. A boat shall be properly rigged and ballasted, be fully seaworthy and shall meet the standards set forth herein. A boat's shrouds and at least one forestay shall remain attached at all times.



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

**2.1.1** A boat's companionway(s) shall be capable of being blocked off to main deck level (sheerline). The method of blocking should be solid, watertight, and rigidly secured, if not permanent.

**2.1.2** A boat's hatch boards, whether or not in position in the hatchway, shall be secured in a way that prevents their being lost overboard.

**2.1.3** A boat's entire cockpit shall be solid, watertight, strongly fastened and/or sealed. Weather-tight seat hatches are acceptable only if capable of being secured when closed.

**2.1.4** A boat's cockpit drains shall be capable of draining six inches of water in 5 minutes. One square inch (645mm<sup>2</sup>) of effective drain per eight square feet (0.743m<sup>2</sup>) of cockpit sole will meet this requirement.

**2.1.5.2** A boat's maximum cockpit volume for cockpits not open to the sea, including any compartments capable of flooding, to lowest points of coaming over which water can adequately escape, shall not exceed 0.08 x LOA x Max. Beam x Freeboard aft. The cockpit sole shall be at least 0.02 x LOA above LWL.

**2.1.6** A boat's through-hull openings below the waterline shall be equipped with sea cocks or valves, except for integral deck scuppers, speed transducers, depth finder transducers and the like; however, a means of closing such openings shall be provided.

**2.2.3** A boat with moveable or variable ballast (water or canting keel) shall comply with the requirements ISAF Offshore Special Regulations Appendix K.

**2.3.1** A boat shall be equipped with a head or another marine sanitation device.

**2.3.3** A boat fitted with a stove shall have a stove with a fuel shutoff.

**2.3.5** A boat shall have adequate hand holds below decks.

**2.4.1** A boat's deck including the headstay shall be surrounded by a suitably strong enclosure, typically consisting of lifelines and pulpits, meeting the requirements in 2.4.2 to 2.4.8.

**2.4.2** A boat's stanchion and pulpit bases shall be within the working deck.

**2.4.3** Bow pulpits may be open, but the opening between the vertical portion of stanchion pulpit and any part of the boat shall not exceed 14.2" (360mm).

**2.4.4** Lifelines shall be stainless steel wire. Uncoated stainless steel wire is strongly recommended. HPME line does not meet this requirement. A multipart-lashing segment not to exceed 4" per end termination for the purpose of attaching lifelines to pulpits is allowed. Lifelines shall be taut.



**2.4.4.1** Lifeline deflection shall not exceed the following: a) When a deflecting force of 9 lbs (40N) is applied to a lifeline midway between supports of an upper or single lifeline, the lifeline shall not deflect more than 2" (50mm). This measurement shall be taken at the widest span between supports that are aft of the mast. b) When a deflecting force of 9 lbs (40N) is applied midway between supports of an intermediate lifeline of all spans that are aft of the mast, deflection shall not exceed 5" (120mm) from a straight line between the stanchions.

**2.4.5** The maximum spacing between lifeline supports (e.g. stanchions and pulpits) shall be 87" (2.2m).

**2.4.6** Boats under 30' (9.14m) shall have at least one lifeline with 18" (457mm) minimum height above deck, and a maximum vertical gap of 18" (457mm). Taller heights will require a second lifeline. The minimum diameter shall be 1/8" (3mm).

**2.4.7** Boats 30' and over (9.14m) shall have at least two lifelines with 24" (762mm) minimum height above deck, and a maximum vertical gap of 15" (381mm). The minimum diameter will be 5/32" (4mm) for boats to 43' (13.1m) and 3/16" (5mm) for boats over 43' (13.1m).

**2.4.8** Toe rails shall be fitted around the foredeck from the base of the mast with a minimum height of 3/4" (18mm) for boats under 30' (9.14m) and 1" (25mm) for boats over 30'. An additional installed lifeline that is 1-2" (25-51mm) above the deck will satisfy this requirement for boats without toerails.

**2.5.1** It is strongly recommended that a boat shall have a permanently installed manual bilge pump of at least a 10 GPM (37.8 liter per minute) capacity and which is operable from on deck with the cabin closed with the discharge not dependent on an open hatch. Unless permanently attached to the pump, the bilge pump handle shall be securely attached to the boat in its vicinity via a lanyard or catch. A bilge pump discharge shall not be connected to a cockpit drain. The bilge pump shall not discharge into a cockpit unless that cockpit opens aft to the sea.

**2.7.2** A boat shall have a mechanical propulsion system that is quickly available and capable of driving the boat at a minimum speed in knots equivalent to the square root of LWL in feet (1.8 times the square root of the waterline in meters) for 4 hours.

**2.7.3** The boat's engine and generator installation (if so equipped) must conform to ABYC, ISO, or U.S. Coast Guard standards.

**3.1.1** Each crewmember shall have an inflatable life jacket that provides at least 33.7lbs (150N) of buoyancy, intended to be worn over the shoulders (no belt pack), meeting either U.S. Coast Guard or ISO specifications. Alternatively, each crewmember shall have an inherently buoyant off-shore life jacket that provides at least 22lbs (100N) of buoyancy meeting either U.S. Coast Guard or ISO specifications.

**3.1.2** Life jackets shall be equipped with, a whistle, a waterproof light, be fitted with marine grade retroreflective material, and be clearly marked with the boat's or wearer's name. Integral or separate harness must be available. If the life jacket is inflatable, it shall be regularly checked for air retention. Crotch or leg straps are strongly recommended. Harness and light are required between sunset and sunrise or whenever the person in charge requires it.



**3.1.4** Each crewmember racing between sunset and sunrise shall have a safety harness and compatible safety tether not more than 6'7" (2m) long with a minimum tensile strength of 4500 lb. (20kN). The tether shall have a snap hook at its far end and a means to quickly disconnect the tether at the chest end.

**3.3.1** A boat racing between sunset and sunrise shall carry navigation lights that meet U.S. Coast Guard or applicable government requirements mounted so that they will not be obscured by the sails nor be located below deck level.

**3.3.2** A boat shall have a second set of navigation lights that comply with US Coast Guard or applicable government requirements and which can be connected to a different power source than the primary lights.

**3.4** A boat shall carry fire extinguisher(s) that meets U.S. Coast Guard or applicable government requirements, when applicable.

**3.5** A boat shall carry sound-making devices that meets U.S. Coast Guard or applicable government requirements, when applicable.

**3.6.6** A boat shall carry three U.S.Coast Guard (or applicable government entity) red hand flares not older than the expiration date.

**3.7.1** A boat shall carry a Lifesling or equivalent man overboard rescue device equipped with a self igniting light stored on deck and ready for immediate use.

**3.7.2** A boat shall have a man overboard pole and flag, with a lifebuoy, a self-igniting light, a whistle, and a drogue attached. A self-inflating Man Overboard Module, Dan Buoy or similar device will satisfy this requirement. Self-inflating apparatus shall be tested and serviced in accordance with the manufacturer's specifications. These items shall be stored on deck, ready for immediate use, and affixed in a manner that allows for a "quick release".

**3.7.3** A boat shall have a throwing sock-type heaving line of 50' (15m) or greater of floating polypropylene line readily accessible to the cockpit.

**3.7.4** A boat shall carry a Coast Guard or applicable government approved "throwable device". If the device carried under 3.7.1 or 3.7.2 satisfies this requirement, then no additional device is needed.

**3.8.1** A boat shall have a permanently installed 25 watt VHF radio with a masthead mounted antenna. It is recommended at least 15" (381mm) of antenna length and coaxial feeder cable with no more than a 40% power loss. VHF radio shall have DSC capability, be connected to or have an internal GPS, and have the assigned MMSI number (unique to the boat) programed into the VHF.

**3.8.1.1** A boat that is part of a US Sailing / World Sailing recognized one design class, where class rules do not require a masthead VHF antenna, shall install (a) a pushpit / stern pulpit antenna, or (b) use a suction cup style "emergency" antenna,

**3.8.1.2** except for the Around the Islands race, a fully charged cell phone available at all times would satisfy the requirement of 3.8.1.



**3.8.2** A boat shall have a handheld VHF radio. It is strongly recommended that this radio shall have DSC/GPS capability with an MMSI number properly registered to the boat.

**3.14** A boat shall carry a GPS receiver.

**3.15** A boat shall carry an electronic means to record the position of a man overboard within ten seconds. This may be the same instrument listed in 3.14.

**3.16.2** It is strongly recommended a boat shall carry either a 406MHz EPIRB which is properly registered to the boat, or a floating 406MHz Personal Locator Beacon, registered to the owner with a notation in the registration that it is aboard the boat. This device shall be equipped with an internal GPS.

**3.18** A boat shall have a permanently installed depth sounder that can measure to depths of at least 200 ft. (61m).

**3.19.1** A boat shall have a permanently mounted magnetic compass independent of the boat's electrical system suitable for steering at sea.

**3.20** A boat shall have non-electronic charts that are appropriate for the race area.

**3.22** A boat shall carry soft plugs of an appropriate material, tapered and of the appropriate size, attached or stowed adjacent to every through-hull opening.

**3.23** A boat shall carry one anchor, meeting the anchor manufacturer's recommendations based on the yacht's size, with a suitable combination of chain and line.

**3.24.1** A boat shall carry a watertight, high-powered searchlight, suitable for searching for a person overboard at night or for collision avoidance.

**3.24.3** A boat shall carry at least two watertight flashlights with spare batteries in addition to the requirement of 3.24.1.

**3.25** A boat shall carry a first aid kit and first aid manual suitable for the likely conditions of the passage and the number of crew aboard.

**3.26** A boat shall carry an 11.5" (292mm) diameter or greater octahedral radar reflector or one of equivalent performance, when racing between sunset and sunrise.

**3.27.1** A boat shall carry two sturdy buckets of at least two gallons (8 liters) capacity with lanyards attached.

**3.29.1** A boat shall have an emergency tiller, capable of being fitted to the rudder stock.

**3.30** A boat shall carry tools and spare parts, including an effective means to quickly disconnect or sever the standing rigging from the hull.

**3.32** A boat shall carry a strong, sharp knife, sheathed and securely restrained which is readily accessible from the deck and/or cockpit.



**3.33.1** A boat shall have a mainsail reefing capable of reducing the luff length by at least 10%.

**3.35** A boat shall not be rigged with any halyard that requires a person to go aloft in order to lower a sail.

**3.36** A boat over 30' LOA (9.14m) shall have a means to prevent the boom from dropping if support from the mainsail or halyard fails.

**3.39** It is recommended a boat shall carry adequate inflatable life raft(s) designed for saving life at sea with designed capacity for containing the entire crew. The raft shall be SOLAS, ISAF, ISO 9650-1 or ORC approved. The raft shall be stored in such a way that it is capable of being launched within 15 seconds. Boats built after 01/06/2001 shall have the life raft stowed in a deck mounted rigid container or stowed in watertight or self-draining purpose built rigid compartment(s) opening adjacent to the cockpit or the working deck. Boats built prior to 01/06/2001 may alternatively stow the life raft in a valise not weighing over 88 lbs. securely below deck and adjacent to the companionway. It is recommended the life raft(s) shall hold current certificate(s) of inspection.

**4.2** Annually, two-thirds of the boat's racing crew shall practice man-overboard procedures appropriate for the boat's size and speed. The practice shall consist of marking and returning to a position on the water, and demonstrating a method of hoisting a crewmember back on deck, or other consistent means of reboarding the crew member.

**4.3.2** It is recommended at least 30% of those aboard the boat, but not fewer than two members of the crew, unless racing single handed, including the person in charge, shall have attended a half-day, one-day, or two-day US Sailing Safety at Sea Seminar within the last 5 years, including online courses when available, or other courses as accepted by US Sailing or other national authority.