PIYA Safety Equipment Requirements - as ammended by SEAS

Note: Organizing Authorities may want to consider adding items in beige tint based on the conditions of their specific races.

For use by Inspectors

Effective Date: 04/26/2018

Section Name	#	Requirement	Coastal + (Spirit and AIR)	Coastal (Cup)	Vessel Compliance Y/N		SEAS Amendments	Inspector Comments
Overall	1.1	**The Minimum 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 the Coast Guard/National Safety Authority of the Organizing Authority (OA), the Racing Rules of Sailing (RRS), the rules of Class Associations and all applicable rating rules.**	**Races not far removed from shorelines, where rescue may not be quickly available SPIRIT AND AIR**	**Races not far removed from shorelines, where rescue is likely to be quickly available SEAS CUP**	**Y**	**N**		
Overall: Responsibility	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. S/he shall also nominate a person to take over the responsibilities of the Person in Charge in the event of his/her incapacitation	**X**	**X**			SEAS race committee shall have the prerogative of accepting any contender deemed to be reasonably addressing these requirements, and disqualifying any contender for unjustifiable omission. Acceptance or disqualification shall in all cases be made prior to race. Acceptance in no way releases "person in charge" of responsibility for crew and vessel.	
Overall: Inspections	1.3	A boat may be inspected at any time by an inspector or measurer of the Organizing Authority. If she does not comply with these regulations her entry may be rejected, or will be liable to disqualification, or such other penalty as may be prescribed by the race protest committee.	**X**	**X**			AIR/Spirit: SEAS Race committed shall review skipper's checklist 14 days prior to race event. If sufficient cause for concern is given, the Race Committee may inspect vessel to confirm qualification as much as 7 days prior to race event.	
Overall: Equipment and Knowledge	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, who will have practiced with the use of equipment. This equipment shall be readily accessible while underway and, when not in use, stored in such a way that deterioration is minimized.	**X**	**X**				
Overall: Secure Storage	1.5	A boat's heavy items such as batteries, stoves, toolboxes, anchors, chain and internal ballast shall be secured.	**X**	**X**				
Overall: Strength of Build	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.	**X**	**X**				
Overall: Watertight Integrity	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.	**X**	**X**				
Overall: Scantlings	1.8	Hull Construction Standards - Scantlings with plan review approval - (See Appendix M)						

Section Name	#	Requirement	Coastal + (Spirit and AIR)	Coastal (Cup)	Vessel Compliance Y/N		SEAS Amendments	Inspector Comments
Hull and Structure: Hull Openings	2.1.1	A boat's companionway(s) shall be capable of being blocked off to main deck level. The method of blocking should be solid, watertight and rigidly secured, if not permanent.	X	X				
Hull and Structure: Hull Openings	2.1.2	A boat's hatch boards, whether or not in position in the hatchway, shall be secured to the boat (e.g. by a lanyard) for the duration of the race to prevent their being lost overboard.	X	X			Required for Spirit/AIR. Recommended for CUP	
Hull and Structure: Cockpit	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.	X	X				
Hull and Structure: Cockpit	2.1.4	A boat's cockpit drains shall be capable of draining six inches of water in 5 minutes. One square inch (645mm2) of effective drain per eight square feet (0.743m2) of cockpit sole will meet this requirement.	X	X			SEAS will not measure cockpit volume. All cockpits shall be self-bailing	.
Hull and Structure: Cockpit	2.1.5.1	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 0.06 x LOA x Max. Beam x Freeboard aft. The cockpit sole shall be at least 0.02 x L above LWL.	X				SEAS will not measure cockpit volume. All cockpits shall be self-bailing	
Hull and Structure: Through Hulls	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.	X	X				
Hull and Structure: Stability	2.2.1	The boat must have a stability index greater than or equal to 115, or meet the requirements of ISO 12217-2A						
Hull and Structure: Stability	2.2.2	The boat must have a stability index greater than or equal to 103 or meet the requirements of ISO 12217-2B.	X	X			SEAS shall not calculate stability index.	
Hull and Structure: Stability	2.2.3	A boat with moveable or variable ballast (water or canting keel) shall comply with the requirements of Appendix K of the Offshore Special Regulations(OSR). http://www.sailing.org/tools/documents/OSR2012AppK09122011-[11760].pdf	X	X			SEAS shall not calculate stability index.	
Hull and Structure: Accommodations	2.3.1	A boat shall be equipped with a head or a fitted bucket.	X				A bucket with no holes in it will serve.	
Hull and Structure: Accommodations	2.3.2	A boat shall have bunks sufficient to accommodate the off-watch crew.	X					
Hull and Structure: Accommodations	2.3.3	A boat shall have a stove with a fuel shutoff.	X					
Hull and Structure: Accommodations	2.3.4	A boat shall have an installed water tank and delivery system.						
Hull and Structure: Accommodations	2.3.5	A boat shall have adequate hand holds below decks.	X				SEAS supports this as a recommendation, but shall not inspect.	
Hull and Structure: Lifelines	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.	X	X				
Hull and Structure: Lifelines	2.4.2	A boat's stanchion and pulpit bases shall be within the working deck. Stanchions used with HMPE lifelines shall have rounded openings to reduce chafe.	X	X			Or chafe resistant sleeves over lines where they pass through stanchions	
Hull and Structure: Lifelines	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).	X	X			SEAS supports this as a recommendation, but shall not inspect.	

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Hull and Structure: Lifelines	2.4.4	Lifelines **SHALL** be either uncoated stainless steel wire or high molecular weight polyethylene (HMPE) line with spliced terminations or terminals specifically intended for the purpose(see appendix-Lifelines for requirements). 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 (see appendix-Lifelines for requirements).	X	X			SEAS will recommend lifeline improvements for the CUP races, and Require lifeline improvement s for the SPIRIT race.	
Hull and Structure: Lifelines	2.4.5	The maximum spacing between the bases of lifeline supports (e.g. stanchions and pulpits) shall be 87" (2.2m).	X	X				
Hull and Structure: Lifelines	2.4.6	Boats under 30 feet (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 as per Appendix- Lifelines	X	X			Configurations that would require a second lifeline but don't have them may be equipped with secure lifeline netting or weave from top line to deck.	
Hull and Structure: Lifelines	2.4.7	Boats 30 feet 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 shall be as per Appendix- Lifelines	X	X			Configurations that would do not meet the spacing requirements may be equipped with secure lifeline netting from top line to deck.	
Hull and Structure: Lifelines	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.	X	X			If no toe rail, provide toe-level lifeline.	
Hull and Structure: Dewatering pumps	2.5.1	A boat shall have a permanently installed manual bilge pump of at least a 10 gallons per minute (GPM) 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.	X	X				
Hull and Structure: Dewatering pumps	2.5.2	A boat shall have a second permanently installed manual bilge pump of at least 10 GPM capacity, operable from below deck, meeting the same criteria as above.	X				The buckets shall suffice as a secondary means of pumping for the Spirit and AIR	
Hull and Structure: Dewatering pumps	2.5.3	A boat shall have a manual bilge pump of at least a 10 GPM capacity.						
Hull and Structure: Mast and Rigging	2.6	A boat shall have the heel of a keel-stepped mast securely fastened to the mast step or adjoining structure.	X	X				
Hull and Structure: Mechanical Propulsion	2.7.1	A boat shall have a mechanical propulsion system that is ready for immediate use and capable of driving the boat at a minimum speed in knots equivalent to the square root of LWL in feet (1.81 times the square root of the waterline in meters) for at least 10 hours.	X				Motor capable of pushing boat 4 kts on flat water for 6 hours.	
Hull and Structure: Mechanical Propulsion	2.7.3	The boat's engine and generator installation (if so equipped) must conform to ABYC, ISO and/or Coast Guard/National Safety Authority of the OA standards.	X	X				

Section Name	#	Requirement	Coastal + (Spirit and AIR)	Coastal (Cup)	Vessel Compliance Y/N		SEAS Amendments	Inspector Comments
Safety Equipment: Personal	3.1.1	Each crewmember shall have a life jacket that provides at least 33.7lbs (150N) of buoyancy, intended to be worn over the shoulders (no belt pack), meeting either Coast Guard/National Safety Authority of the OA or ISO specifications. Life jackets shall be equipped with crotch or leg straps, a whistle, a waterproof light, be fitted with marine-grade retro-reflective material, and be clearly marked with the boat's or wearer's name, and be compatible with the wearer's safety harness. If the life jacket is inflatable, it shall be regularly checked for air retention. Leg or crotch straps will be required starting 01/01/2014. Alternatively, each crewmember shall have a Coast Guard approved Type I life jacket /National Safety Authority of the OA approved equivalent equipped with crotch or leg straps, a whistle, a waterproof light, retro-reflective material, marked with the boat or owner's name, which is compatible with a safety harness.	X	X			Racers participating in the Spirit/AIR races shall comply. Cup racers shall comply, but may omit crotch straps and safety harness compatibility for 2015 season.	
Safety Equipment: Personal	3.1.4	Each crewmember shall have a safety harness and compatible safety tether not more than 7 feet (2.13m) 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 while under load.	X	X			Required equipment for all crew on deck duty during the Spirit. Recommended for the AIR and Cup races.	
Safety Equipment: Deck Safety	3.2.1	A boat shall carry jacklines with a breaking strength of at least 4500 lb. (20kN) which allow the crew to reach all points on deck, connected to similarly strong attachment points, in place while racing.	X	X			Required equipment for all crew on deck duty during the Spirit. Recommended for the AIR and Cup races.	
Safety Equipment: Deck Safety	3.2.2	A boat shall have adequate clipping points or jacklines that allow the crew to clip on before coming on deck and to unclip after going below.	X	X			Required for crew on deck at night for Spirit/AIR.	
Safety Equipment: Navigation Lights	3.3.1	A boat shall have navigation lights that meet Coast Guard/National Safety Authority of the OA requirements and mounted so that they will not be obscured by the sails nor be located below deck level.	X	X			Some Nav-lights are built in to hull. SEAS shall allow this as an exception.	
Safety Equipment: Navigation Lights	3.3.2	A boat shall have a second set of navigation lights that comply with Coast Guard/National Safety Authority of the OA requirements and which can be connected to a different power source than the primary lights.	X	X			Requirement applies only to Spirit and AIR. We have extended daylight during sailing season at our latitude.	
Safety Equipment: Fire Extinguishers	3.4	A boat shall carry fire extinguisher(s) that meets Coast Guard/National Safety Authority of the OA requirements, when applicable.	X	X				
Safety Equipment: Sound Producing Equipment	3.5	A boat shall carry a sound-making device that meets Coast Guard/National Safety Authority of the OA requirements, when applicable.	X	X				
Safety Equipment: Visual Distress Signals	3.6.1	A boat shall carry SOLAS orange smoke flares not older than the expiration date.	2	1				
Safety Equipment: Visual Distress Signals	3.6.2	A boat shall carry SOLAS red parachute flares not older than the expiration date.	4	2				
Safety Equipment: Visual Distress Signals	3.6.3	A boat shall carry SOLAS red hand flares not older than the expiration date.	4	2				
Safety Equipment: Visual Distress Signals	3.6.4	A boat shall carry Coast Guard/National Safety Authority of the OA approved flares meeting day-night requirements, not older than the expiration date.						
Safety Equipment: Visual Distress Signals	3.6.5	Boat flares stored inside of life rafts may not be used to satisfy the flare requirement.	X	X			50% of those required for the Spirit/AIR may be stored in life raft.	

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Safety Equipment: Man Overboard	3.7.1	A boat shall carry a LifeSling™ or equivalent man overboard rescue device stored on deck and ready for immediate use.	X	X				
Safety Equipment: Man Overboard	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 MOB 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".	X	X				
Gear: Man Overboard	3.7.3	A boat shall have a heaving line of 50' (15m) or greater of floating line stored on deck and ready for immediate use.	X	X				
Safety Equipment: Emergency Communications	3.8.1	A boat shall have a permanently installed 25-watt VHF radio connected to a masthead antenna by a co-axial feeder cable with no more than a 40% power loss. After 01/01/2015 all radios shall have DSC capability, have an antenna of at least 15" (381mm) in length, be connected to or have an internal GPS, and have the assigned MMSI number (unique to the boat) programed into the VHF.	X	X				
Safety Equipment: Emergency Communications	3.8.2	A boat shall have a watertight handheld VHF radio or a handheld VHF radio with waterproof cover. After 01/01/2015, this radio shall have DSC/GPS capability.	X	X				
Safety Equipment: Emergency Communications	3.8.3	A boat shall have an emergency VHF antenna. After 01/01/2015 the emergency antenna shall be equipped with sufficient coax to reach the deck, and have a minimum antenna length of 15" (381mm).	X	X			A second fixed VHF with separate antenna NOT on mas shall suffice, provided it is in good working order.	
Safety Equipment: Emergency Communications	3.10	A boat shall carry a cellular phone in a waterproof container.					Required for all SEAS races.	
Safety Equipment: Emergency Communications	3.13	A boat shall have a method of receiving weather information in addition to the fixed mount and hand held VHF radio.	X				A second VHF shall suffice for SEAS races.	
Safety Equipment: Emergency Communications	3.14	A boat shall carry a GPS receiver.	X	X			Require for all SEAS races	
Safety Equipment: Emergency Communications	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.	X	X			Require for all SEAS races	
Safety Equipment: Emergency Communications	3.16.2	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. After 01/01/2016, this device shall be equipped with an internal GPS.	X				Highly recommended for AIR/Spirit races. Note the date for requiring GPS built in top unit.	
Safety Equipment: Emergency Communications	3.17	A boat shall have a knotmeter and/or distance-measuring instrument.	X	X			Recommended equipment all races.	
Safety Equipment: Emergency Communications	3.18	A boat shall have a permanently installed depth sounder that can measure to depths of at least 200 ft. (61m).	X	X			Required for SEAS/AIR races. Recommended for Cup races.	
Safety Equipment: Navigation	3.19.1	A boat shall have a permanently mounted magnetic compass independent of the boat's electrical system suitable for steering at sea.	X	X				
Safety Equipment: Navigation	3.19.2	A boat shall have a second magnetic compass suitable for steering at sea which may be handheld.	X	X				
Safety Equipment: Navigation	3.20	A boat shall have non-electronic charts that are appropriate for the race area.	X	X				
Safety Equipment: Damage Control	3.21	A boat shall have the ability to display sail numbers and letters of the size carried on the mainsail by an alternative means when none of the numbered sails is set.	X				NOT required for SEAS races.	

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Safety Equipment: Damage Control	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.	X	X				
Gear: Anchoring	3.23	A boat shall carry one commercially made anchor, meeting the anchor manufacturer's recommendations based on the yacht's size, with a suitable combination of chain and line.	X	X				
Gear: Lights	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.	X	X				
Gear: Lights	3.24.2	A boat shall carry a watertight flashlight for each crewmember with spare batteries in addition to the above.	X					
Gear: Lights	3.24.3	A boat shall carry at least two watertight flashlights with spare batteries in addition to the requirement of 3.24.1.		X				
Gear: Medical Kits	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.	X	X				
Gear: Radar Reflectors	3.26.1	A boat shall carry an octahedral passive radar reflector with circular sector plates of minimum diameter 30 cm (12") or a reflector with a documented minimum Radar Cross Section (RCS) of area of 2 m2	X	X				
Gear: Radar Reflectors	3.26.2	A radar reflector shall be displayed at all times at least 13 feet (4 meters) above the waterline.	X	X				
Gear: Dewatering	3.27	A boat shall carry a sturdy bucket(s) of at least two gallons (8 liters) capacity with lanyards attached.	2	2				
Gear: Safety Diagram	3.28	A boat shall post a durable, waterproof diagram or chart locating the principal items of safety equipment and through hulls in the main accommodation area where it can be easily seen.	X	X			Recommended - will be required in future seasons.	
Gear: Emergency Steering	3.29.1	A boat shall have an emergency tiller, capable of being fitted to the rudder stock. Boats with twin rudders and twin tillers connected directly to the rudders are exempt from this requirement	X					
Gear: Spare Parts	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.	X	X				
Gear: Identification	3.31	All lifesaving equipment shall bear retro-reflective material and be marked with the yacht's or wearer's name. The exception would be for new equipment or rented equipment (e.g. life rafts) that would require the unpacking of sealed equipment in order to meet this requirement. The boat name shall be stenciled on during the first servicing of any new equipment.	X	X			SEAS shall permit survival gear marked with other vessel names, if it is on loan to meet specific race requirements.	
Gear: Cockpit Knife	3.32	A boat shall carry a strong, sharp knife, sheathed and securely restrained which is readily accessible from the deck and/or cockpit.	X	X				
Sails: Mainsail Reefing	3.33.1	A boat shall have a mainsail reefing capable of reducing the luff length by at least the following percentages	10%	10%				
Sails: Headsails	3.33.3	A boat shall carry a heavy-weather jib (or heavy-weather sail in a yacht with no forestay) of area not greater than 13.5% height of the fore triangle squared.	X	X			Recommended, but not required for SEAS races	
Rigging: Halyards	3.35	A boat shall not be rigged with any halyard that requires a person to go aloft in order to lower a sail.	X	X				
Rigging: Boom Support	3.36	A boat shall have a means to prevent the boom from dropping if support from the mainsail or halyard fails.	X	X			Recommended, but not required for SEAS races	
Supplies: Water	3.37	A boat shall carry 1 gallon (3.785 liters) per crewmember of emergency drinking water in sealed containers in addition to any other water carried aboard the boat and it shall be aboard after finishing.					Required for Spirit/Air	
Supplies: Rations	3.38	A boat shall carry adequate food, energy bars, and snacks to maintain crew stamina as described in the Notice of Race.					Required for Spirit/Air	
Skills: Emergency Steering	4.1	A boat's crew shall be aware of multiple methods of steering the boat with the rudder disabled, and shall have chosen and practiced one method of steering the boat with the rudder disabled and be prepared to demonstrate said method of steering both upwind and downwind.	X	X			Recommended. All skippers responsible for developing applicable drill for crew.	

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Skills: Man Overboard	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 crewmember.	X	X			Recommended. All skippers responsible for developing applicable drill for crew.	
Skills: Safety at Sea Training	4.3.1	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 one-day or two-day Safety at Sea Seminar within the last 5 years, or other courses as accepted by their National Authority.	X				Recommended. SEAS shall develop program to fulfill this requirement.	
Gear: survival at sea	NEW SEAS	All boats boats shall provide supplemental survival floatation for crew. This shall be in the form of survival suits, an inflated dingy on deck, a self-inflating liferaft, or a combinatino of these items affording capacity of crew.	X				Required for Spirit/AIR. Recommended for Cup races.	