



NOTICE OF RACE

MARCH 10-16, 2023

NEWPORT BEACH TO CABO SAN LUCAS INTERNATIONAL YACHT RACE

1. ORGANIZING AUTHORITY, DEFINITIONS, OFFICIAL NOTICES and TIME STANDARD

- 1.1. Newport Harbor Yacht Club is the Organizing Authority (“OA”) for the 2023 Newport Beach to Cabo San Lucas International Yacht Race (Cabo Race). www.nhyccaborace.com
- 1.2. US Sailing is the Rating Authority (RA) for the Offshore Racing Rule (ORR) for all monohull boats.
- 1.3. US Sailing is the Rating Authority (RA) for the Offshore Racing Rule (ORR-MH) for all multihull boats.
- 1.4. The term Skipper as used herein is defined as the person, whether or not the owner of the boat, who is designated on the application for entry and if the boat is subsequently entered in the race, on the entry-form as “Skipper” and who is the person in charge of the boat during the race. The Skipper is responsible for the boat; its handling and safety; the conduct of its crew before, during, and after the race, and compliance with the rules.
- 1.5. The term Competitor as used herein is defined as any person who will be aboard an entered boat during the race. A boat’s crew is the full complement of Competitors including the Skipper.
- 1.6. The OA reserves the right to amend this Notice of Race. The OA will post amendments on the Official Notice Board on the race website. If appropriate, copies of amendments will be placed on a supplementary notice board at NHYC.
- 1.7. The Official Notice Board is a page bearing the same name on the race website located at; https://yachtscoring.com/notice_board_summary.cfm?eid=15442
- 1.8. All times referenced are PDT - Pacific Daylight Savings Time [UTC-7] unless otherwise noted.

2. RULES and SAFETY EQUIPMENT REQUIREMENTS

- 2.1. The race will be governed by the *rules* as described in the Racing Rules of Sailing (RRS) including the US Sailing prescriptions; and
- 2.2. For Monohulls and Multihulls, US Safety Equipment Requirements (SER) for Ocean races, effective date: January 1, 2022, revision 2022.0 as may be modified by the Notice of Race and the Sailing Instructions.
 - 2.2.1. URL Link to US Sailing SERs: <https://www.ussailing.org/competition/offshore/safety-information/ser-world-sailing-special-regulations/>. **A copy is attached as Appendix 1.**
- 2.3. Advertising on a boat shall comply with the requirements of World Sailing Regulation 20.

3. CHANGES TO THE RULES

- 3.1. The following changes apply to all boats.
 - 3.1.1. RRS 17 On the Same Tack; Proper Course is replaced between the hours of local sunset and local sunrise by **RRS Appendix RV, Reduced Visibility and is attached hereto**.
 - 3.1.2. Rule 41 Outside Help is changed to add: “e) Communications via phone or email with a yacht builder, designer or engineer when the integrity of the vessel is at stake is not a violation of the intent of RRS 41, provided such communications are reported to the Race Committee within 4 hours of each occurrence.”
 - 3.1.3. RRS 47 Trash Disposal is changed to allow biodegradable sail stops for safety purposes.
 - 3.1.4. RRS 51 Movable Ballast is changed to allow for the movement of sails that are not set; however, all gear and sails not being flown must remain within a boat’s lifelines.



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- 3.1.5. RRS 51 Movable Ballast and RRS 52 Manual Power are changed to allow the positioning of movable ballast by power, but only if boats are designed and built with these systems, then rated for such power by the RA; provided further, however, that all movable ballast systems shall be capable of manual operation if powered systems are inoperable.
- 3.1.6. RRS 52 Manual Power is changed to allow power and stored energy for sail hoisting, trimming and adjustment of running rigging for boats rated with those systems by the RA.
- 3.1.7. RRS 55.2 Spinnaker Poles; Whisker Poles is changed to allow the use of spinnaker poles and bowsprits, whether fixed or retractable, for the purpose of setting sails.
- 3.1.8. RRS 55.3 (a) Outriggers to Leeward. The OA elects to allow entrants to be ORR Event rated for and use non-Large Roach Headsails set to leeward connected to Outriggers as described in version 1.2 of the 2021 Offshore Racing Rule Sections 10.05 (f) & (g).
- 3.1.9. RRS 62 Redress is changed by adding the following: “(e) being directed by a Government Authority to deviate from her proper course.”.
- 3.1.10. US Sailing Prescription 63.2 is excluded and not in effect.
- 3.1.11. RRS 64.2 Penalties; the first sentence is changed to be: “When the protest committee decides a yacht that is a party to a protest hearing has broken a rule and is not exonerated, it may impose an elapsed time penalty or impose no penalty at all.”. If an elapsed time penalty is imposed, its magnitude will be at the protest committee’s discretion unless otherwise specified in the NOR or SIs. This change will apply to Elapsed Time, Class and Fleet awards/trophies.
- 3.1.12. Pursuant to RRS 87 Changes to Class Rules the OA intends to obtain, and it will post, written permission from the Offshore Racing Association in regards to the following changes that will apply to boats competing in the ORR class:
 - 3.1.12.1. ORR 4.01 will be changed to remove any limitation on crew weight.
 - 3.1.12.2. ORR 4.04 will be changed in accordance with NOR Section 3.1.4. above
 - 3.1.12.3. ORR 4.08 allows yachts to declare, receive a rating adjustment for and then use stored energy for sail hoisting, trimming, reefing, furling or dousing, and adjustment of backstays and running rigging. Power winches shall NOT be used to induce surfing or planing.
 - 3.1.12.4. ORR 10.02.1 will be modified to remove any limitation on the number of spinnakers and staysails that may be carried.
 - 3.1.12.5. ORR Appendix 7 allows monohull yachts to declare, be rated with and use movable and/or variable ballast. All ballast systems shall be capable of manual operation if powered systems are inoperable.

4. CHANGES TO SAFETY EQUIPMENT REQUIREMENTS

4.1. Monohulls and Multihulls

4.1.1.SER 3.21 is deleted.

4.1.2.SER 4.7 is added: A minimum of two crew shall have current training in CPR & First Aid.

5. INSPECTIONS - All boats are subject to US SER 1.3 – Inspection.

6. COMMUNICATION EQUIPMENT

6.1. All boats will be required to have the following communication equipment onboard while racing:

6.1.1. VHF 2-way radio and AIS Transponder, refer to SERs 3.8 and 3.9;



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- 6.1.2. Equipment able to send and receive e-mail while racing;
 - 6.1.3. 3rd Party Race Tracker and Positioning Transponder, supplied by the OA;
 - 6.1.4. Satellite telephone, continuously powered-on while racing, with the Sat-Phone number registered with the Race Committee by March 2, 2023.
- 6.2. Communication restrictions - RRS 41(c) – Outside Help, please review World Sailing Case 120.

7. ELIGIBILITY

- 7.1. Eligible ocean racing boats are Monohulls with a LOA \geq 38' or Multihulls with a LOA \geq 45'.
- 7.2. The minimum crew on any boat shall be four (4).
- 7.3. Handicap Rating Certificates
 - 7.3.1. Each boat shall have a valid Full Measurement rating certificate issued by its RA.
 - 7.3.2. Boats must submit all data for their rating certificate to the RA by Friday, January 27, 2023 by Noon (1200). ORR Email: ora.rating.services@gmail.com
 - 7.3.3. ORR and ORR-MH Cabo Handicap Ratings
 - 7.3.3.1. The Cabo Race Wind Matrix used to calculate a Cabo Race rating is in Appendix 2.
 - 7.3.3.2. Multihull ratings for Multihull handicap awards shall be based on ORR-MH.
- 7.4. Insurance - The owner or charterer of a boat entered in the race shall maintain marine legal liability insurance policies when racing in US and Mexican waters, with a sum insured of not less than \$1,000,000 USD and naming the OA, Newport Harbor Yacht Club, as an additional insured.
- 7.5. Final Determination of Eligibility - The OA's entry and technical committees will review a yacht's provisional entry form, its eligibility and rating-configuration requirements and make recommendations to the OA. The OA has the sole and absolute discretion with the final authority to accept or reject a yacht's entry even though it may or may not meet the requirements of the NOR. A boat's Stability Index (minimum 115), Knock Down Recovery Factor, hull, rig and/or sail configuration, crew experience and an ability to average a minimum 6.5 knot speed over the course will also be reviewed. A decision of the OA as to any matter listed in this NOR, including whether a boat or her crew meet the eligibility and entry conditions for admission into the race, is final and binding and shall not be grounds for a request for redress.

8. ENTRY

- 8.1. Boats meeting the NOR's eligibility requirement may enter provisionally by completing an online entry form and by paying a \$1,200 entry fee on or before 1/31/23 to avoid a \$250 late fee penalty. No refund will be issued if a boat withdraws after 2355 on 2/19/23 when entry is closed. The online entry form is at: https://yachtscoring.com/event_registration_email.cfm?eID=15442
- 8.2. Transponders will be used for daily position reports in addition to the morning position reports to be transmitted by a boat's email system. Boats are not responsible for a rental fee, but are required to enter into a rental agreement with the service provider. A security deposit will be required and will be refunded in full upon return of the undamaged transponder.
- 8.3. Additional Entry Requirements:

Subject to acceptance of an entry by the OA, an applicant shall supply the following additional items to the OA by the due date indicated to have a valid entry:



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RA Rating and OA Entry Requirement Deadlines:

● Rating Information to the RA	1/27/23	1200
● Entry Deadline w \$1,200 Entry Fee	1/31/23	2355
● Digital Photograph of the boat	2/19/23	1700
● Proof of Insurance	2/19/23	1700
● Any Charter or other pertinent agreements	2/19/23	2355
● Late Entry Deadline w \$1,450 Entry Fee	2/19/23	2355
● Rating Certificate to the OA	3/01/23	1200 (Noon)
● All Crew Entries – submitted electronically	3/01/23	1700
● Submit Emergency Contact info while afloat	3/01/23	1700

9. SCHEDULE OF EVENTS

● Sailing Instructions	3/02/23	1700
● Provisional Class Breaks posted	3/02/23	1700
● Boat Check-In & Transponder Pick-up at NHYC * ¹	3/09/23	0900-1730
● Competitors' Meeting * ²	3/09/23	1800
● ORR Provisional Start Day 1	3/10/23	1300
● ORR Provisional Start Day 2	3/11/23	1300
● Multihull Fleet Warning Signal	3/11/23	1330
● Trophy Presentation	3/16/23	1730

*¹ Each boat is required to have a representative check-in with the OA. A boat that fails to check-in is not eligible to race.

*² Each boat is required to have a representative attend the Competitors' Briefing held on Zoom

10. COURSE

The Cabo Race will start in the Pacific Ocean near Newport Beach, California, USA and finish in the Pacific Ocean near Cabo San Lucas, Baja California Sur, MEX. The rhumb line distance is approximately 800 nautical miles. The exact start and finish locations will be described in detail in the Sailing Instructions.

11. CLASS BREAKS AND SCORING

- 11.1. Class breaks for each fleet will be published by 1700 on March 2, 2023.
- 11.2. A boat's corrected time will be calculated using the Time-on-Time scoring method with a boat's appropriate rating. The boat with the lowest corrected time in each division will be scored first and so on.
- 11.3. Boats competing in different fleets (i.e., ORR or ORR-MH) will not be scored against one another.

12. TROPHY PRESENTATION

- 12.1. A trophy presentation is scheduled for 1730 Thursday, March 16, 2023, in Cabo San Lucas. Family and friends may buy dinner tickets in advance for usd\$35.00 each. A no-host bar will be available after the trophy presentation.
- 12.2. One take-home award will be given to each of the first three finishers, scored on corrected time, in each division or class and one to the Winner on Elapsed Time



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12.3. Perpetual Trophies

- State of California Governor's Perpetual Trophy – First ORR boat on Elapsed Time
- H. H. Ayres Perpetual Trophy. – Overall ORR Division winner on Corrected Time
- Miguel Aleman Trophy – Winner of ORR Class A (corrected time)
- The Mayor's Trophy – Winner of ORR Class B (corrected time)
- NHYC Cabo San Lucas Race Trophy – Winner of ORR Class C (corrected time)
- James Webster Gaboon - Winner of ORR Class D (corrected time)

13. DISCLAIMER

Sailing is an activity that has an inherent risk of damage and injury. Competitors in this race participate entirely at their own risk. See RRS 3, Decision to Race. The race organizers (OA, RA, Race Committee, Protest Committee, host clubs, sponsors, or any other organization or official) will not be responsible for damage to any boat or other property or the injury to any competitor, including death, sustained as a result of participation in this race. By participating in this race, each competitor agrees to release the race organizers from any and all liability associated with such competitor's participation in this event to the fullest extent permitted by law.

14. GENERAL INFORMATION

Questions regarding the Notice of Race, Entry, Eligibility or Sailing Instructions, including interpretations of published rules and amendments, must be submitted in writing to the OA via email at: nhyrc@gmail.com

For further information please contact:

Dwight Belden | Principal Race Officer
Newport Harbor Yacht Club | 720 W. Bay Ave., Newport Beach, CA 92661
(949) 500-1110 (mobile phone) | nhyrc@gmail.com

or

Jess Gerry | Yacht Racing Director
Newport Harbor Yacht Club | 720 W. Bay Ave., Newport Beach, CA 92661
(949) 723-6870 | jess.gerry@nhycstaff.org | (970) 978-0661 (mobile phone)

NOTICE OF RACE - ADDENDUM A: MEDIA RIGHTS, RESTRICTIONS and ADVERTISING follows ...



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NOTICE OF RACE - ADDENDUM A

MEDIA RIGHTS AND RESTRICTIONS

- A. The conditions of entry include a requirement that the owner or charterer of the boat and all crew members:
 - A.1. acknowledge that the OA owns all media rights to the Cabo Race and may exercise those rights as it sees fit; and
 - A.2. grant the OA the unconditional, perpetual right and authority to publish and broadcast anywhere in the world, for any purpose and in any media, the names, images, and biographical information relating to the crew and photographs, video footage, and audio recordings taken of the boat and its crew prior to, during, and after the race; and
 - A.3. acknowledge that there is a prohibition on the use of any form of positioning system, other than that supplied or authorized by the OA, for the purpose of posting a boat's position or other information to any internet site.
- B. Crew members of boats may, prior to, during, and after the race, speak or provide material to any media representatives accredited by the OA, regarding the race and the prospects, performance, or strategy of boats entered or participating in the race, subject to any comments and any material not undermining or interfering with, or having a detrimental impact on, the OA and its officers and employees, the RC, the protest committee, measurers, or current or former sponsors of the OA. The OA may revoke this approval with respect to a boat, any of its crew members, or a media representative at any time.
- C. Entrants must acknowledge and accept the media restrictions referred to herein on the entry form. Crew members must grant the rights referred to herein by signing a disclaimer and acknowledgement of rights form, as supplied by the OA.
- D. Any breach of these conditions may, at the discretion of the OA or RC, lead to the rejection of an application for entry, the cancellation of an entry, or the disqualification of a boat (see RRS 76.1). This does not limit the right of the OA to take any other action it sees fit to enforce compliance with these conditions.
- E. Yachts who intend to display advertising must so indicate on their entry forms and provide a brief description of the content. Pursuant to RRS 76.2, a boat and her crew shall comply with the World Sailing Advertising Code. Advertising not compliant with World Sailing Regulation 20.2.4. - generally accepted ethical and moral standards - shall be grounds for rejection of an entry or disqualification.

Safety Equipment Requirements

Note: Organizing Authorities may add or delete items based on the conditions of their specific races.

Effective Date: January 1, 2022, version 2022.0

1 Overall	
1.0.1 Definition	Ocean: Long distance races, well offshore, where rescue may be delayed
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 Responsibility	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.
1.2.1 Responsibility, Investigations	Should there be an incident during a race the Organizing Authority or US Sailing may conduct an investigation to determine the facts of the incident and provide recommendations. By participating in a race conducted under the SER, the person in charge, each competitor and boat owner agrees to reasonably cooperate with the organizing authority and US Sailing in the development of an independent incident report.
1.3 Inspections	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 Equipment and Knowledge	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 Secure Storage	A boat's heavy items such as batteries, stoves, toolboxes, anchors, chain and internal ballast shall be secured.
1.6 Strength of Build	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 Watertight Integrity	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.
1.8 Scantlings	Hull Construction Standards - Scantlings with plan review approval - (See Appendix)
2 Hull and Structure	
2.1.1 Hull Openings	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 Hull Openings	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 Cockpit	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 Cockpit Drains	A boat's cockpit drains shall be capable of draining six inches of water in 5 minutes. One square inch (645mm ²) of effective drain per eight square feet (0.743m ²) of cockpit sole will meet this requirement.

2.1.5.1 Cockpit Volume	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 LOA above LWL.
2.1.6 Through Hulls	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.
2.2.1 Stability	The boat must have a stability index greater than or equal to 115, or meet the requirements of ISO 12217-2A
2.2.3 Stability	A boat with moveable or variable ballast (water or canting keel) shall comply with the requirements of Appendix K.
2.3.1 Head	A boat shall be equipped with a head or a fitted bucket.
2.3.2 Bunks	A boat shall have bunks sufficient to accommodate the off watch crew.
2.3.3 Stove	A boat shall have a stove with a fuel shutoff.
2.3.3.1 Fire Blanket	A boat shall have a fire blanket adjacent to each stove.
2.3.4 Water Storage	boats shall carry water as required by the Notice of Race such that a single failure of a tank or delivery system will not allow the loss of more than half the water.
2.3.5 Hand Holds	A boat shall have adequate hand holds below decks.
2.4.1 Lifelines	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 Lifeline Stanchions	A boat's stanchion and pulpit bases shall be within the working deck.
2.4.3 Bow Pulpit	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	Lifelines shall be uncoated stainless steel wire. 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	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 Lifeline Stanchion Spacing	The maximum spacing between lifeline supports (e.g. stanchions and pulpits) shall be 87" (2.2m).
2.4.6 Lifelines	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 Lifelines	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	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.

2.4.9 Lifelines on Trimarans	Trimarans are exempted from the lifeline requirement where there is a trampoline outboard of the main hull, except that a lifeline must run from the top of a bow pulpit to the forward crossbeam at the outboard edge of the bow net or foredeck. Catamarans with trampoline nets between the hulls are exempted from the lifeline requirement. All catamarans are exempted from the need for pulpits and lifelines across the bow.
2.5.1 Dewatering pumps	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.
2.5.2 Dewatering pumps	A boat shall have a second permanently installed manual bilge pump of at least 10 GPM (37.8 liter per minute) capacity, operable from below deck, meeting the same criteria as above.
2.6 Mast and Rigging	A boat shall have the heel of a keel-stepped mast securely fastened to the mast step or adjoining structure.
2.7.1 Mechanical Propulsion	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 (1.81 times the square root of the waterline in meters) for 10 hours.
2.7.3 Mechanical Propulsion Installation	The boat's engine and generator installation (if so equipped) must conform to ABYC, ISO, or U.S. Coast Guard standards.
3 Safety Equipment	
3.1.1 Lifejackets	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 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 Lifejacket Features	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.
3.1.4 Harness	Each crewmember 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.
3.2.1 Jacklines	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.
3.2.2 Clipping Points	A boat shall have adequate clipping points or jacklines that allow the crew to clip on before coming on deck and unclip after going below.
3.2.3 Deck Safety	Multihulls must have jacklines or attachment points that are accessible when the boat is inverted.
3.3.1 Navigation Lights	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 Navigation Lights	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 Fire Extinguishers	A boat shall carry fire extinguisher(s) that meets U.S. Coast Guard or applicable government requirements, when applicable.
3.5 Sound Producing Equipment	A boat shall carry sound-making devices that meets U.S. Coast Guard or applicable government requirements, when applicable.

3.6.1 Smoke Flares	A boat shall carry two SOLAS orange smoke flares not older than the expiration date.
3.6.3 Hand Flares	A boat shall carry four SOLAS red hand flares not older than the expiration date.
3.6.5 Raft Flares	Boat flares stored inside of life rafts may not be used to satisfy the flare requirement.
3.7.1 Crew Overboard Sling	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 Crew Overboard Equipment	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 Throw Line	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 Throwable Device	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 Fixed Mount VHF	A boat shall have a permanently installed 25-watt VHF radio connected to a masthead antenna by a coaxial feeder cable with no more than a 40% power loss. Such radio 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) programmed into the VHF.
3.8.2 Handheld VHF	A boat shall have a watertight handheld VHF radio or a handheld VHF radio with waterproof cover. This radio shall have DSC/GPS capability with an MMSI number properly registered to the vessel.
3.8.4 VHF Emergency Antenna	A boat shall have an emergency VHF antenna with sufficient coax to reach the deck, and have a minimum antenna length of 15" (381mm).
3.9 AIS	All boats shall have an AIS Transponder, sharing a masthead VHF antenna via a low loss AIS antenna splitter. An acceptable alternative is a dedicated AIS antenna that is a minimum of 0.9 meters long, mounted with its base at least 3 meters above the water, and fed with coax that has a maximum 40% power loss. AIS requirement for Coastal is effective January 1, 2024.
3.13 Weather	A boat shall have a method of receiving weather information in addition to the fixed mount and hand held VHF radio.
3.14 GPS	A boat shall carry a GPS receiver.
3.15 Crew Overboard Button	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.
3.16.1 EPIRB	A boat shall carry a 406MHz EPIRB that is properly registered to the boat. This device shall be equipped with an internal GPS.
3.17 Knot Meter	A boat shall have a knotmeter and/or distance-measuring instrument.
3.18 Depth Sounder	A boat shall have a permanently installed depth sounder that can measure to depths of at least 200 ft. (61m).
3.19.1 Compass	A boat shall have a permanently mounted magnetic compass independent of the boat's electrical system suitable for steering at sea.
3.19.2 Second Compass	A boat shall have a second magnetic compass suitable for steering at sea which may be handheld.
3.20 Charts	A boat shall have non-electronic charts that are appropriate for the race area.
3.21 Alternate Sail Numbers	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.
3.22 Plugs	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 Anchor	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 Searchlight	A boat shall carry a watertight, high-powered searchlight, suitable for searching for a person overboard at night or for collision avoidance.
3.24.2 Flashlights	A boat shall carry a watertight flashlight for each crewmember with spare batteries in addition to the above.
3.25 Medical Kits	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 Radar Reflectors	A boat shall carry an 11.5" (292mm) diameter or greater octahedral radar reflector or one of equivalent performance.
3.27.1 Buckets	A boat shall carry two sturdy buckets of at least two gallons (8 liters) capacity with lanyards attached.
3.28 Safety Diagram	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.
3.29.1 Emergency Tiller	A boat shall have an emergency tiller, capable of being fitted to the rudder stock.
3.30 Spare Parts	A boat shall carry tools and spare parts, including an effective means to quickly disconnect or sever the standing rigging from the hull.
3.31 Identification	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 added during the first servicing of any new equipment.
3.32 Cockpit Knife	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 Mainsail Reefing	A boat shall have a mainsail reefing capable of reducing the luff length by at least 10%.
3.33.2 Trysail	A boat shall carry a trysail, with the boat's sail number displayed on both sides, which can be set independently of the main boom, has an area less than 17.5% of E x P, and which is capable of being attached to the mast. Storm sails manufactured after 01/01/2014 shall be constructed from a highly visible material. A mainsail with a reef of at least 50% of P is an acceptable substitute for a trysail.
3.33.3 Heavy Weather Jib	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 foretriangle squared.
3.33.4 Storm Jib	A boat shall carry a storm jib not exceeding 5% of the yacht's I dimension squared, an equipped with an alternative means of attachment to the headstay in the event of a failure of the head foil. Storm sails manufactured after 01/01/2014 shall be constructed from a highly visible material.
3.35 Halyards	A boat shall not be rigged with any halyard that requires a person to go aloft in order to lower a sail.
3.36 Boom Support	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.
3.37 Emergency Water	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.
3.39 Life Rafts	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. The life raft(s) shall hold current certificate(s) of inspection.

3.40 Life Rafts	A boat shall have a grab bag with a lanyard and clip for each life raft. The grab bag shall have inherent flotation and be of a bright fluorescent color containing at least an EPIRB, and a watertight handheld VHF radio. The VHF radio and EPIRB need not be in addition to the prior requirements.
4 Skills	
4.1.1 Emergency Steering	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.
4.2 Man Overboard Practice	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.
4.3.1 Safety at Sea Training	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 a valid Offshore or International Offshore Certificate from US Sailing, or the equivalent from another national authority.
4.4 Crew Training	As required in 1.2 above the person in charge shall ensure that all crew members know where all emergency equipment is located and how to operate the equipment. In addition, the person in charge and crew should discuss how to handle various emergency situations including Crew Overboard, Grounding, Loss of steering, Flooding, Fire, Dismasting, and Abandon Ship.
4.6 Crew Training	Lifejackets as described in 3.1.1 – 3.1.3 should be worn by all crew on deck in any conditions where recovery may be difficult. It is recommended that lifejackets be worn by all crew on deck unless the person in charge has indicated that they may be set aside.

US Multihull Safety Equipment Requirements

Note: Organizing Authorities may add or delete items based on the conditions of their specific races.

Effective Date: January 1, 2022, revision 2022.0

# / Section	Requirement
1	Overall
1.01 Definition	Ocean: Long distance races, well offshore, where rescue may be delayed
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 Responsibility	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.
1.2.1 Responsibility, Investigations	Should there be an incident during a race the Organizing Authority or US Sailing may conduct an investigation to determine the facts of the incident and provide recommendations. By participating in a race conducted under the SER, the person in charge, each competitor and boat owner agrees to reasonably cooperate with the organizing authority and US Sailing in the development of an independent incident report.
1.3 Inspections	A boat may be inspected at any time by an equipment inspector or measurer appointed for the event. If a boat does not comply with these regulations, its entry may be rejected or it 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 Equipment and Knowledge	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 Secure Storage	A boat's heavy items such as batteries, stoves, toolboxes, anchors, chain and internal ballast shall be secured.
1.6 Strength of Build	A boat shall be strongly built, watertight and, particularly with regard to hulls, decks and cabin trunks, capable of withstanding solid water. A boat shall be properly rigged, 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 Watertight Integrity	A boat's hulls and amas, 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. Centerboard and daggerboard trunks and the like shall not open to the interior of the hull unless the opening is watertight and situated entirely above the waterline floating level in normal trim.
1.8 Scantlings	Hull Construction Standards - Scantlings with plan review approval - (See Appendix)
1.9 Sailing without power	The crew of a boat must demonstrate that normal sailing functions (including but not limited to: raising and lowering sails; trimming sails; steering; raising and lowering dagger boards; positioning canting centerboards and moveable ballast; operating bilge pumps; rotating masts (if applicable); and deploying safety gear) can be performed in the event of a complete loss of power.
2	Hull and Structure
2.1.1.1 Exits	Exits: A boat shall have at least 2 exits in each hull which contains accommodation.

2.1.1.2 Escape hatches	Escape Hatches: A boat shall have either an escape hatch in each hull that contains accommodation for access to and from the hull in the event of an inversion or appropriate tools for cutting an escape opening stowed securely in a location accessible from both inside and outside the boat in the event of capsize.
2.1.1.2.3 Escape hatches	Escape Hatches shall be on the side nearest the vessel's centerline if first launch after 2002.
2.1.1.1.2.4 Escape hatches	Escape hatches shall be above the waterline when the boat is inverted.
2.1.1.1.2.5 Escape hatches	Escape Hatches shall have sufficient minimum clearance of 450mm (approximately 18") in diameter or when an escape hatch is not circular, sufficient clearance to allow a crew member to pass through fully clothed.
2.1.1.2.6 Escape hatches	Each Escape Hatch shall have been opened both from the inside and outside within six (6) months prior to the race.
2.1.2 Hull Openings	A boat's hatch boards or doors, whether or not in position in the hatchway, shall be secured in a way that prevents their being lost overboard.
2.1.3 Cockpit	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.
2.1.6 Through Hulls	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.
2.1.7 Floation	A boat shall be designed to ensure that the boat is effectively unsinkable.
2.2.1 Stability	A boat must meet the requirements of ISO 12217-2A
2.3.1 Head	A boat shall be equipped with a head or a fitted bucket.
2.3.2 Bunks	A boat shall have bunks sufficient to accommodate the off-watch crew.
2.3.3 Stove	A boat shall have a stove with a fuel shutoff.
2.3.3.1 Fire Blanket	A boat shall have a fire blanket adjacent to each stove.
2.3.4 Water Storage	Vessels shall carry water as required by the Notice of Race such that a single failure of a tank or delivery system will not allow the loss of more than half the water.
2.3.5 Hand Holds	A boat shall have adequate hand holds below decks.
2.5.1 Dewatering pumps	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.
2.5.2 Dewatering pumps	A boat shall have a portable manual bilge pump of at least 10 GPM capacity capable of dewatering any part of the boat. When not in use, the pump shall be attached to the boat.
2.5.3 Dewatering pumps	Each ama of a trimaran shall have a minimum of three independent compartments of significant volume, completely separated by watertight bulkheads, such that flooding of one section does not jeopardize flooding in the others. Alternatively, a trimaran shall have plumbing permanently installed in each ama allowing provision to pump out all compartments in the ama without having to open an access hatch in the ama.
2.7.1 Mechanical Propulsion	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 10 hours.

2.7.3 Mechanical Propulsion	A boat's engine and generator installation (if so equipped) must conform to ABYC, ISO, or U.S. Coast Guard standards.
2.8 Nets or Trampolines	All trampolines shall be (a) essentially horizontal; (b) Made from durable woven webbing, water permeable fabric or mesh with openings not larger than 2" (5cm) in any dimension. Attachment points shall avoid chafe and the junction between net and boat shall present no risk of foot trapping; (c) Solidly fixed at regular intervals on transverse and longitudinal support lines and (d) Able to carry the full weight of the crew either in normal working conditions at sea or when the boat is inverted.
2.9 Nets or Trampolines	Each multihull shall have one or a combination of netting, coamings, bulwarks, railings, lifelines or jacklines, extending from the aft most part of the cockpit or steering station to the aft most part of the central pulpit or forestay, to keep the crew aboard while sailing and sail handling in conditions expected for Offshore, Coastal or Inshore racing. If lifelines are used, they may be either stainless or HMPE with a minimum diameter of 3/16" (5mm), they must be taut, supported at distances of no greater than 87" (2.2 m), and be a minimum of 24" (762 mm) above the deck with a maximum vertical gap of 15" (381mm).
2.10 Nets or Trampolines	A trimaran with a single crossbeam shall have nets between the central hull and each outrigger on each side between two straight lines from the intersection of the crossbeam and the outrigger, respectively to the aft end of the pulpit on the central hull, and to the aftermost point of the cockpit or steering position on the central hull (whichever is furthest aft).
2.11 Nets or Trampolines	A catamaran shall have nets covering at least the area bounded: (a) laterally between the hulls and (b) Longitudinally between transverse stations through the forestay base and the aftermost point of the boom lying fore and aft. However, a catamaran with a central nacelle (non-immersed) may satisfy the regulations for a trimaran
3 Safety Equipment	
3.1.1 Lifejackets	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 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 Lifejacket Features	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. Life jackets shall be equipped with a knife suitable for cutting through the trampoline on the boat, with a tether attaching the knife to the life jacket.
3.1.4 Harness	Each crewmember shall have a safety harness and compatible safety tether not more than 6'7" (2m) long with a minimum tensile strength of 4500 lb. (20 kN). The tether shall have a snap hook at its far end and a means to quickly disconnect the tether at the chest end.
3.2.1 Jacklines	A boat shall carry jacklines with a breaking strength of at least 4500 lb. (20 kN) which allow the crew to reach all points on deck, connected to similarly strong attachment points, in place while racing.
3.2.2 Clipping Points	A trimaran with a rudder on the outrigger must have clipping points available for a crewmember to repair the steering mechanism while clipped in.

3.2.3 Deck Safety	A boat shall have jack lines with a breaking strength of at least 4,500 lbs. (20 kN), running the length of the underwing deck adjacent to the escape hatches, which allow the crew to clip in before exiting the hull. On a trimaran, these shall be around the central hull. In addition, the underwing deck shall (if there is one) be outfitted with nonskid pathways suitable for crew to cross between hulls and to access safety equipment while remaining clipped in.
3.3.1 Navigation Lights	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 Navigation Lights	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 Fire Extinguishers	A boat shall carry fire extinguisher(s) that meets U.S. Coast Guard or applicable government requirements, when applicable.
3.5 Sound Producing Equipment	A boat shall carry sound-making devices that meets U.S. Coast Guard or applicable government requirements, when applicable.
3.6.1 Smoke Flares	A boat shall carry two SOLAS orange smoke flares not older than the expiration date.
3.6.3 Hand Flares	A boat shall carry four SOLAS red hand flares not older than the expiration date.
3.6.5 Raft Flares	Boat flares stored inside of life rafts may not be used to satisfy the flare requirement.
3.7.1 Crew Overboard Sling	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 Crew Overboard Equipment	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 Throw Line	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 Throwable Device	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 Fixed Mount VHF	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. Such radio 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) programmed into the VHF.
3.8.2 Handheld VHF	A boat shall have a watertight handheld VHF radio or a handheld VHF radio with waterproof cover. This radio shall have DSC/GPS capability with an MMSI number properly registered to the vessel.
3.8.4 VHF Emergency Antenna	A boat shall have an emergency VHF antenna with sufficient coax to reach the deck and have a minimum antenna length of 15" (381mm).

3.9 AIS	A boat shall have an AIS Transponder, sharing a masthead VHF antenna via a low loss AIS antenna splitter. An acceptable alternative is a dedicated AIS antenna that is a minimum of 0.9 meters long, mounted with its base at least 3 meters above the water, and fed with coax that has a maximum 40% power loss.
3.10 AIS COB Beacon	Each crew member shall have a dedicated AIS personal crew overboard beacon. This shall be on the crew member's person at all times while on deck.
3.13 Weather	A boat shall have a method of receiving weather information in addition to the fixed mount and handheld VHF radio.
3.14 GPS	A boat shall carry a GPS receiver.
3.15 Crew Overboard Button	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.
3.16.1 EPIRB	A boat shall carry a 406MHz EPIRB that is properly registered to the boat. This device shall be equipped with an internal GPS.
3.17 Knot Meter	A boat shall have a knotmeter or alternatively a handheld GPS, in addition to the primary GPS referenced in 3.14
3.18 Depth Sounder	A boat shall have a permanently installed depth sounder that can measure to depths of at least 200 ft. (61m).
3.19.1 Compass	A boat shall have a permanently mounted magnetic compass independent of the boat's electrical system suitable for steering at sea.
3.19.2 Second Compass	A boat shall have a second magnetic compass suitable for steering at sea which may be handheld.
3.20 Charts	A boat shall have non-electronic charts that are appropriate for the race area.
3.21 Alternate Sail Numbers	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.
3.22 Plugs	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 Anchor	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 Searchlight	A boat shall carry a watertight, high-powered searchlight, suitable for searching for a person overboard at night or for collision avoidance.
3.24.2 Flashlights	A boat shall carry a watertight flashlight for each crewmember with spare batteries in addition to the above.
3.25 Medical Kits	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 Radar Reflectors	A boat shall carry an 11.5" (292mm) diameter or greater octahedral radar reflector or one of equivalent performance.
3.27.1 Buckets	A boat shall carry two sturdy buckets of at least two gallons (8 liters) capacity with lanyards attached.
3.28 Safety Diagram	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.
3.29.1 Emergency Steering	A boat must be able to be steered after the failure of any one component in the steering system.
3.30 Spare Parts	A boat shall carry tools and spare parts, including an effective means to quickly disconnect or sever the standing rigging from the hull.

3.31 Identification	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 added during the first servicing of any new equipment.
3.32 Cockpit Knife	A boat shall carry at least one strong, sharp knife, sheathed and securely restrained on deck which is readily accessible from each trampoline in the event of inversion. In addition, A boat shall carry a second knife meeting the requirements above which is accessible from the underside of the boat.
3.32.1 Cockpit Knife	A boat shall carry a strong, sharp knife, sheathed and securely restrained adjacent to each escape hatch.
3.33.1 Mainsail Reefing	A boat shall have a mainsail with reefing capable of reducing the luff length by at least 50%.
3.33.2 Trysail	A boat shall carry a trysail, with the boat's sail number displayed on both sides (or rotating wing mast if suitable), which can be set independently of the main boom, has an area less than 17.5% of E x P, and which is capable of being attached to the mast. Storm sails manufactured after 01/01/2014 shall be constructed from a highly visible material. If a boat has a mainsail capable of reducing the luff length by at least 60%, this requirement is omitted.
3.33.4 Headsails	A boat shall carry a storm jib not exceeding 5% of the yacht's I dimension squared and equipped with an alternative means of attachment to the headstay in the event of a failure of the head foil. Storm sails manufactured after 01/01/2014 shall be constructed from a highly visible material.
3.33.5 Mainsheet Release	The crew of a boat must be able to manually release sufficient mainsheet or traveler to cause the end of the boom to move at least 15 degrees in arc in under two (2) seconds from all steering or consistently manned trimming station while racing. Hydraulics manufacturer design specifications or video are acceptable compliance.
3.33.4 Search & Rescue Visibility	A boat must display a one square meter area of highly visible pink, orange or yellow showing if the boat is inverted.
3.35 Halyards	A single roller-furling headsail of no larger than 125% LP may be lashed to the swivel at the top of the forestay, thus requiring a person to go aloft to hoist or drop this sail. No other sail, either headsail or mainsail, may be rigged so that someone has to go aloft to hoist or drop it.
3.37 Emergency Water	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.
3.39 Life Rafts	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 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. The life raft(s) shall hold current certificate(s) of inspection. The boat may alternatively stow the life raft in a valise not weighing over 88 lbs. securely below deck adjacent to the escape hatch(es) so long as the valise fits through the escape hatch without force. The life raft(s) shall be readily deployable whether or not the boat is inverted.

3.40 Life Rafts	A boat shall have a grab bag with a lanyard and clip for each life raft. The grab bag shall have inherent flotation, be of a bright fluorescent color, and contain at least an EPIRB or PLB, a watertight handheld VHF radio, a waterproof flashlight, and cutting tools if required per 2.1.1.2. The VHF radio and EPIRB or PLB are in addition to the prior requirements and shall be properly registered to the boat in the case of the EPIRB, or to the owner with a notation that it is carried on the boat in the case of a PLB.
4 Skills	
4.1.1 Emergency Steering	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.
4.2 Man Overboard Practice	Annually, two-thirds of a 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.
4.3.1 Safety at Sea Training	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 a valid Offshore or International Offshore Certificate from US Sailing, or the equivalent from another national authority.
4.4 Crew Training	As required in 1.2 above the person in charge shall ensure that all crew members know where all emergency equipment is located and how to operate the equipment. In addition, the person in charge and crew shall discuss how to handle various emergency situations including Crew Overboard, Grounding, Loss of steering, Flooding, Fire, Dismasting, and Abandon Ship.
4.6 Crew Training	Lifejackets as described in 3.1.1 – 3.1.3 should be worn by all crew on deck in any conditions where recovery may be difficult. It is recommended that lifejackets be worn by all crew on deck unless the person in charge has indicated that they may be set aside.

(PROPOSED) NHYC 2023 NB to CABO SAN LUCAS WIND MATRIX

OCEAN RACE LONG DISTANCE OFFSHORE COURSE (ORR - 2023 VPP)

Historical Matrix WX Assumptions			
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2005	2006	2008	2009
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TIME-ON-TIME

2023

Percent of Total Distance at this Wind Speed	NM	Percent of Total Distance at this Wind Speed	Wind (kts)	Optimum B	52 Degree	60 Degree	75 Degree	90 Degree	110 Degree	120 Degree	135 Degree	150 Degree	Optimum R				
				Beat	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Run					
10.0%	10.0%	10.0%	9.0%	71.2	9.0%	6	8%	4%	4%	4%	5%	5%	10%	16%	7%	37%	100%
12.0%	12.0%	12.0%	12.0%	94.9	12.0%	8	8%	4%	4%	4%	4%	4%	10%	16%	7%	39%	100%
14.0%	14.0%	15.0%	14.0%	118.7	15.0%	10	8%	4%	4%	3%	4%	4%	5%	15%	12%	41%	100%
25.0%	25.0%	25.0%	22.0%	229.4	29.0%	12	5%	4%	4%	3%	3%	3%	5%	14%	15%	44%	100%
25.0%	25.0%	24.0%	22.0%	142.4	18.0%	16	4%	3%	3%	3%	3%	3%	5%	15%	15%	46%	100%
10.0%	10.0%	10.0%	15.0%	102.8	13.0%	20	4%	2%	2%	2%	3%	3%	5%	15%	15%	49%	100%
4.0%	4.0%	4.0%	6.0%	31.6	4.0%	24	4%	2%	2%	2%	2%	2%	5%	16%	16%	49%	100%
100.0%	100.0%	100.0%	100.0%		100.0%		5.9%	3.3%	3.3%	3.0%	3.4%	3.4%	6.4%	15.3%	12.4%	43.6%	100.0%

0.41 0.23 0.23 0.21 0.24 0.24 0.45 1.07 0.87 3.05 7.00

NM	Wind Angle - RACE PROFILE - Wind Speed			
149	Opt Beat - 90	19%	36%	< 11 kts:
297	110 - 150	38%	47%	11 - 16 kts:
345	Opt Run	44%	17%	> 16 kts:

APPENDIX RV

REDUCED VISIBILITY RACING RULES

When so stated in the notice of race, the race shall be sailed under the 2021-2024 Racing Rules of Sailing as changed by this appendix.

The preamble to Part 2 of the Racing Rules of Sailing allows the rules of Part 2 to be replaced with the right-of-way rules of the International Regulations for Preventing Collisions at Sea (IRPCAS). This appendix is designed to be a replacement for the IRPCAS in overnight or long distance races. It is recommended that the organizing authority (OA) apply this appendix in the same way it would apply the IRPCAS, for example, between sunset and sunrise.

When invoked, this appendix shall be used in its entirety, with no changes to these rules. See rule 86.1. However, the OA may request permission from World Sailing to change

- (a) the 40 metre distance in the definitions **Keep Clear**, **Mark-Room** and **Room**,*
- (b) the 200 metre distance in the definition **Zone**, and*
- (c) the 80 metre distance in rule 17.2.*

The request shall include the reasons and the expected types and sizes of the entries. The revised Appendix RV and the permission from World Sailing for the changes shall be posted on the official notice board.

Version 1.1, January 2021.

RV1 Changes to the Definitions

RV1.1 The definition *Keep Clear* is changed to:

Keep Clear A boat *keeps clear* of a right-of-way boat if the right-of-way boat can sail her course with no need to take avoiding action and with no less than 40 metres between the boats.

RV1.2 The definition *Mark-Room* is changed to:

Mark-Room Room for a boat to leave a *mark* on the required side with no less than 40 metres between the boats. Also,

APPENDIX RV REDUCED VISIBILITY RACING RULES

- (a) *room* to sail to the *mark* when her *proper course* is to sail close to it, and
- (b) *room* to round or pass the *mark* as necessary to *sail the course* without touching the *mark*.

RV1.3 Add new definition *Overtaking*:

Overtaking A boat is *overtaking* when she is approaching a boat from *clear astern*. She remains the *overtaking* boat until she is *clear ahead*. The other boat is the boat being *overtaken*.

RV1.4 The definition *Room* is changed to:

Room The space a boat needs in the existing conditions, including space to comply with her obligations under the rules of Part 2 and rule 31, while manoeuvring promptly in a seamanlike way, with no less than 40 metres between the boats.

RV1.5 The definition *Zone* is changed to:

Zone The area around a *mark* within a distance of 200 metres of it. A boat is in the *zone* when any part of her hull is in the *zone*.

RV2 Changes to the Rules of Part 2

RV2.1 Rule 17 is changed to:

17 ON THE SAME TACK; PROPER COURSE

17.1 A *leeward* boat shall not sail above her *proper course* while she is within 80 metres of the *windward* boat.

17.2 When boats on the same *tack* are within 80 metres of each other, a boat being *overtaken* shall sail her *proper course* until the *overtaking* boat becomes *overlapped* with her.

17.3 If there is reasonable doubt that a boat is *overtaking* another boat, it shall be presumed that she is.

Note: Approved as an appendix to be placed on the World Sailing website. This appendix may be changed with the approval of the World Sailing Racing Rules Committee.