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BAY AREA MULTIHULL ASSOCIATION (BAMA)
PERFORMANCE HANDICAP RACING FLEET
(BAMA.PHRF)

PART 1
RULES AND GUIDELINES
FOR HANDICAPPING

PART 2
Handicap Rating Application

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PART 1

RULES & GUIDELINES

I. DEFINITION

The Ratings Committee (Committee) is a Standing Committee of the Bay Area Multihull Association (BAMA) of San Francisco Bay. Its sole function is to determine the speed potential of multihulls that meet the criteria of Section II below. The Committee may assign rating values to multihull sailboats for which a rating application is filed and signed. The ability of a multihull sailboat to achieve her best performance in other than these average conditions may be taken into account when there is a significant difference observed in the design parameters that would better suit her to other conditions.

The Committee recognizes that the handicaps will be used in a variety of races ranging from protected bays, estuaries and lakes to open oceans. Therefore, the Committee has no responsibility for the seaworthiness or safety of yachts rated, but cites the US SAILING Fundamental Rule 4 part 1: "It shall be the sole responsibility of each yacht to decide whether or not to start or to continue to race."

II. CRITERIA

The Ratings Committee shall establish performance ratings for sailboats which:

A. Have multiple hulls, two (2) or three (3),
B. Have a hull length of eighteen (15) feet or greater,
C. Have submitted a properly completed and signed application and supporting information to enable the Committee to understand the shape, size and speed-producing factors of the boat.

The Committee may decline to handicap any yacht for which it feels unable to determine a potential speed.

It is Committee policy that all documentation must be submitted to BAMA prior to issuance of a rating. No ratings shall be given over the phone, electronic mail, fax or without full documentation having been made available to the entire committee.

The Committee may invalidate a certificate at anytime, where cause is in evidence such as incorrect dimensions or other than declared equipment is used. Due process will be exercised to allow the owner to be heard and corrections made if the owner in the view of the Committee provides justification. Further recourse resides in U S Sailing's appeals process.

III. RATINGS

The Committee shall assign ratings to yachts based on their potential boat speeds as supported by PHRF ratings in other areas, Texel ratings, SCHRS ratings, Portsmouth ratings, geometric data such as D, SA/D, LWL, D/L, rotating masts, mast heights, luff lengths and other configuration parameters. The Committee will review performance data from time to time and make adjustments it deems necessary. Production boats are assigned base ratings, which may be modified if the boats are changed from stock. Some of the tools used in assigning ratings are detailed below:

A. Similarity to boats with established ratings.
B. Ratings from National PHRF Handicaps (for the current year) for other areas.
C. Pictures and drawings - Out of water pictures of hull, rig, foils, mast, etc.
D. Ballast Ratio: Ballast/Displacement in lbs.(most suspect of all brochure parameters)
F. SA/D = SA / ((D/64)^.667)
G. PHRF = 6DPN-390
H. D/L = (D/2240) / ((LWL/100)^3)
I. Prismatic Coefficient = [Actual Hull Vol. (in cubic feet less keel)]/(LWL * mid-ship cross sectional area)

A boat may have only one rating at any time for a given racing series. A copy of the current valid rating certificate must be on board while she is racing under these rules.

Normally multihull base ratings are established at six (6) seconds per mile intervals, *i.e.*, 162 or 168, etc. In exceptional circumstances a deviation of three (3) seconds per mile may be adopted for the base rating of a particular class or multihull.

IV. RACE RESULTS

Race results for Time-on-Distance races are calculated in the following manner:
For each boat:

(1) Multiply its PHRF rating times the race course distance (in Nautical miles) to get its TIME ALLOWANCE. Note that the TIME ALLOWANCE is in seconds, because the rating is in seconds per mile. The course distance should be specified in "rhumb line" distance.
(2) Subtract the TIME ALLOWANCE from the elapsed time required to finish the racecourse to get its CORRECTED FINISH TIME.

Now sort all the boats in the class on CORRECTED FINISH TIME. The boat with the lowest CORRECTED FINISH TIME is the winner.

Race results for Time on Time are calculated as follows:
For each boat:

(1) Calculate its Time Correction Factor (TCF) = 650 / (550 + PHRF rating), sample A, B factors
(2) Corrected time = TCF ∗ Elapsed time. Elapsed time can be in Seconds, Minutes, or Hours.

Now sort all the boats in the class on CORRECTED FINISH TIME. The boat with the lowest CORRECTED FINISH TIME is the winner.

V. ONE-DESIGN RATING (ODR)

The Committee may provide ODR ratings to one-design classes that have their rules on file with BAMA. All boats with ODR ratings while sailing in PHRF races are to sail in conformance with their one design class rules within the following modifications:

A. Strict interpretation of limitations to:
1. Hull,
2. Rig
3. Sail Dimensions,
4. Masts
5. Foils

B. No limitation on:
1. sail material,
2. number of sails carried on board while racing (so long as they are class legal size),
3. who may steer,
4. weight or number of crew members.

C. In the case where class rules prohibit spinnakers, use of spinnakers is permitted while racing as declared and rated.

The BAMA Ratings Committee feels that most classes attempt to equalize the speed of their boats with the imposition of the class rules. If you modify your multihull in a manner that does not meet "Class Rules", or if you choose to not use an ODR rating, the Committee may assign you a different rating than a sister-ship that agrees to an ODR. In either case, this does not relieve you of filling out a proper application.

Boats designed to utilize trapezes and/or hiking straps or whose class rules allow such devices may use them, but it must be specifically stated on their application for rating.

VI. ASSUMPTIONS

As noted previously ratings are based on sailing a course consisting of beating, reaching and running with approximately equal amounts of upwind and off-the-wind sailing on San Francisco Bay. Predominately downwind racing may require a separate rating / handicap. Wind Range is assumed to average 10-14 knots. (i.e. San Francisco Bay North, Central and South, Spring to Fall afternoon conditions, within a 6 to 25 knot wind range (with an occasional 30+ knots gear-buster for summer conditions). The ability of a yacht to achieve her best performance in other than these average conditions may be taken into account when there is a significant difference observed in the yachts design parameters that would better suit her to other conditions.

The Base Rating assumes that yachts:

A. Are in optimum racing trim with all normal equipment on board;
B. Have hull bottoms that are fair and clean;
C. Have sails in good condition;
D. Are well sailed.
E. Have a stored or raised outboard, or folding/feathering propeller(s);
F. Have mainsail girths not to exceed the class maximums or are declared on the application.
G. Have spinnaker, either symmetrical or asymmetrical
H. Have spinnaker maximum girth of 75% of spinnaker foot perimeter (RRS 50.4);
I. Include equipment aboard when inspected and weighed with a calibrated load cell and not "stripped out". The intent of this rule is that the boat be sailed with all the equipment on board that she had when the BAMA Ratings Committee assigned the handicap. This means that all the doors, drawers; tables and systems are in place. If it is a production boat, all the items that are considered stock by the builder are still on board. If it is a custom boat, it should be as the drawings and photographs presented to the committee. If a rating certificate was presented to help assess the boat's speed potential, she should have everything on board that was present at that measurement. If items have been removed, depending on the weight involved, the Committee may adjust the PHRF rating of the boat.
J. The BAMA Ratings Committee will review cases where the same class may have outboard or inboard engines and, where appropriate, establish a different base rating for each type of engine.

VII. Preliminary Ratings

BAMA uses SCHRS, Texel and possibly Portsmouth to generate an initial rating or handicap for boats.

VIII. Appeals

A yacht's rating or a competitor's rating may be appealed to the Committee. There shall be a fee for filing an appeal to cover the administrative costs and committee time to review. When the rating of another yacht is being appealed, a copy of the form will be sent to the owner of that yacht. The Appeal form is online.

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PART 2

ASSISTANCE IN FILLING OUT AN APPLICATION FOR HANDICAP

I. General
The Rating Application includes Assistance on terms and descriptions ofn the measurements of: Sails, Hulls, Mast and Weight.

II. Sail Areas:
US Sailing and/or ISAF ERS methods of sail measurement will apply, not class rules. Longest Luff Lengths from Class Rules & Maximum Sail Areas and will be assumed if not provided.

Sail Areas and the Major Sail Dimensions (Luff, Foot or LP) are needed. Please use the "Actual Areas" from your sailmaker. Actual Area from the sailmaker makes Mainsail Girths & Jib Roach metrics or girths supporting items. Measurements may be in feet or metric.

Mainsail Area can use Luff Girths or Leech Girths. Luff girths are needed for wide MGH designs where MGT disappears.

Jib Area will be calculated on ISAF ERS triangles or HPR/ORC Le.Girths. Jibs with full-length battens, see the application diagrams, need specific dimensions. Jibs are generally affixed to the Forestay.

Screachers / Gennakers (RRS 50.4 as limited by 50%<spin MG<75%, mid-point luff-to-leech) use ISAF triangles or HPR ORC Le.Girths. Gennaker area as a spinnaker will be accepted. Screachers / Gennakers will generally be flown from a sprit. Gennakers / Screachers attached to or at the forestay will be rated as Genoas. Gennakers with less than a 50% Mid-girth may be rated as Jibs / Genoas.

Sail areas are to be reported as accurately as practicable. Formulas for measurement are given for conventional sails. These procedures do not restrict the measurer from using alternative means to obtain an accurate area for any sail which is an unusual shape and is deemed to require a different measuring technique.

III Hulls:
Please provide drawings or pictures showing side & end views of your boat if a modified or custom boat. RRS 50.2 & 50.3 are deferred for the spinnaker tack on a bowsprit.

IV Sailing Weight:
Weight Sailing will be lightest boat in Class unless weighed w/inspection. Load-cell weight measurement requires inspection by a Rating Committee or BAMA member and it includes an inventory report. The Rating Application contains a template inventory report.

Weight is measured in the "as-raced" condition with racing sails and the Coast Guard required equipment applicable to the boat size, dry, no (water/gas/blackwater) (ISAF ERS 6.1) .

All items included with the inventory and load cell weight must stay on the boat for Racing.