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

**PART 1
RULES AND GUIDELINES
FOR HANDICAPPING**

**PART 2
ASSISTANCE IN FILLING OUT AN
APPLICATION FOR HANDICAP**

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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 will assign rating values to multihull sailboats for which a rating application is filed and signed. Such values will be in seconds per mile and assume around the buoy racing on San Francisco Bay in the 6 to 25 knot wind range with an average of 14 knots True Wind Speed (TWS). 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 (18) 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, facsimile 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, 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) = $650 / (550 + \text{PHRF rating})$
- (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, but I and J strictly limit the spinnaker size.

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, and should **not** be used for predominately downwind racing. Wind Range is assumed to average 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 no jib LP greater than 155% of J (excludes screachers on bowsprits);
- G. Have mainsail girths not to exceed the maximums for MGU and MGM as prescribed in Article 7.
- H. Have spinnaker, either symmetrical or asymmetrical
- I. Have spinnaker maximum girth of 180% of J or 180% of SPL (spinnaker pole length) whichever is greater;
- J. Have spinnaker maximum luff of $.95 * [(the\ greater\ of\ I\ or\ ISP)^2 + (the\ greater\ of\ J\ or\ SPL)^2]^{1/2}$.
- K. Are 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. An exception to the above stated guideline is that cushions may be removed.
- L. All sails must conform to sail dimension limitations, except as may be modified by these Rules and Guidelines. *Boats do not need to meet these guidelines. However, if they do not, the committee must be notified of such changes as a rating adjustment may be made.*
- M. 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.

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