World Leader In Rating Technology

Summary of the changes to the ORC Rules and Regulations as approved at the **ORC Annual General Meeting** held in Madrid, Spain on 11 November 2008

VPP – Velocity Prediction Program

- ***New heeled drag.*** The results of heeled tests at IOT and Delft have been used to improve the formulation of the resistance increment due to heel.

- ***New wing keel detection scheme.*** The treatment of the keels with bulbs has been further refined, providing a smooth transition between wing keel and bulb configurations.

- ***New RM regression***. The formula to determine estimated (default) Righting Moment has been revised, correcting too low righting moment for some ORC Club boats in 2008

- ***New LVR (Length/Volume ratio) corrector in RR.*** This is a small change to improve the residuary resistance (part of boatôs total resistance) model that was implemented last year.

- ***New Crew Weight Evaluation.*** The formula to calculate default Crew Weight did not change, nor the effect when a declared weight is above the default. However, the effect when the declared crew weight is below the default value has changed, eliminating its effect on displacement, considering only the reduced stability. This will stabilize the behavior of the weight vs handicap relation, and as a side effect gives a better treatment to the ñdouble handedò handicaps.

- ***DSS assessment.*** A measurement and handicapping scheme has been provided for Dynamic Stability System devices.

- ***New aero model with different reef system and removal of EC.*** The aero model has been revised introducing a new de-powering scheme, which forces the jib to be reduced before the mainsail as the wind increases. This more accurately reflects the actual practice on boats. Furthermore, the penalty on E measurement (EC) for high roach mainsail has been deleted and VPP is now calculating real mainsail area and centre of effort height.

- ***New checkstays treatment.*** The disadvantage of using running backstays is reduced.

- ***Correction to Wind Averaging.*** A correction is made to the wind averaging calculation for Ocean Course Handicaps, which has a small effect only for Ocean Course handicaps.

IMS – International Measurement System

- ***New rule C5*** defines measurements of the Dynamic Stability System devices (DSS).

- ***Rule F1.5*** is amended to follow ERS wording.

- ***Rules F4.1, F4.2, F4.3 and F4.4*** are corrected to follow ERS wording.
- ***Rule F9.5*** is re-worded as a result of better VPP evaluation of fractionally rigged boats without backstays but with runners attached to the hounds.
- ***Rule G1.4(a)*** is deleted as it is now covered by the ERS and ***Rules G1.4(b) and (c***) are amended accordingly.
- ***Rule G4.1*** is re-worded by combining old G4.1 and G4.3.
- ***Rule G5*** is corrected in accordance with the new ERS.
- ***New Code 0 minimum mid girth.*** A Code 0 minimum mid girth is established at 55% of foot length, which reduces the range of non-measurable sails, which exceed the jib limits but don't get to the minimum mid girth required for a spinnaker. The lower limit of Code 0 defined as the percentage of the half width in relation to the foot length, and is decreased from 65% to 55% in ***Rule G6.1***.
- SMG is used for symmetric spinnaker measurement and added in ***Rule G6.4.*** SMW remains and is taken as SMG for sails measured before 01/01/2009.
- ***Rule G6.5*** is corrected in accordance with the new ERS.
- Air Conditioning, Water Heater and Desalinator are separated as Heavy items eligible for C/R Adjustment in ***Rules H3.9, H3.10 and H3.11***.
- ***Accommodation Regulations*** for Racing division yachts are relaxed in ***Rules 202 and 205*** to follow GP Class Rules accommodation requirements, adopting the formula for minimum Interior Height: **IH = 0.1143 * AL + 0.3171 (meters)**. A further ï more extensive and radical ï revision of the Racing Division requirements, with the possible perspective of removing them entirely will be discussed during next year. The Cruiser/Racer Division rules are not changed for 2009, and will be reviewed for changes and approval next year.

ORC Rating Systems

- ***Table of Prohibited Materials.*** The material limitations have been revised, confirming the exclusion of titanium except for larger boats, and the modulus, curing pressure and temperature limits of High Strength Carbon. ***New rule 101.1*** defines the list of prohibited materials and laminating procedures.
- The formula for default crew weight in ***Rule 102.2*** is adjusted to metric units.
- ***Rule 102.3*** is simplified in its explanation of the crew weight effect in the VPP.
- Regression coefficients are updated in ***Rule 107.4*** with the latest default RM calculation in the VPP.
- New ***Rule 107.6*** makes possible to rate boats with water ballast just measuring the ballast water tanks capacity, as an alternative to the additional inclining test for water ballast boats.

- Default mainsail widths are removed in ***Rule 109***, and old default values are used only if any of the mainsail widths are not measured. The EC correction is removed and the mainsail will be rated using its actual measured area.

- Jib width defaults are removed in ***Rule 111***, and a minimum jib area is defined, while old width defaults are used only if any of the jib widths are not measured. There are no longer any default measurements on JL and LPG: the default is only on the jib area, which makes rated area equal to measured area in most cases, except with very small jibs (81% of foretriangle area).

- ***Rule 112*** is deleted as the spinnaker configuration is determined from the existing measurements. A symmetric spinnaker is set when SL, SMG and SF are found. Asymmetric spinnakers (and Code 0ôs) are defined when ASL, AMG and ASF measurements are found. A spinnaker pole is set when SPL measurement exists, and TPS sets tacking of asymmetric spinnakers on the centerline.

- Symmetric and asymmetric spinnaker and Code 0 area calculations are changed in ***Rules 113 and 114*** as well as the method of calculating rated areas. The new formula for spinnaker area is the same for symmetric and asymmetric spinnakers and Code 0ôs (SL = ASL, SF = ASF, SMG = AMG for Asymmetric spinnakers including Code 0.

  Area = SL * (SF ï 4*SMG)/ 6

- Symmetric and asymmetric default areas are now lower therefore the rated area will be in most cases the same as the measured one. If the measured area is smaller or equal to the default area, the rated area shall be the average between measured and rated areas. For no spinnaker aboard, rated area will be 50% of the default area.

- ***Rule 208.4*** is changed by removing the 0.762 m limit of the pennant for the asymmetric spinnaker tacked on centerline.

- ***Rule 304.1*** is amended by defining the sails compliance with the certificate if the sail area is smaller or equal to the respective one printed on the certificate.

- ToD and ToT coefficients for non-spinnaker racing are added in ***Rules 403.2*** and ***403.3***.

ORC International Certificate

- ***Sink*** in kg/mm and ***Wetted Area*** in m^2 are added to the Hull box on Page 1.

- A single number scoring options expressed as ***ToD*** and ***ToT*** are added on Page 1for ***non-spinnaker races*** .

- Page 2 is re-arranged showing all possible measurement boxes, displayed with ñN/Aò notification when not applicable. ***Freeboard at mast*** is added to the Inclining test and freeboard box. ***Sails*** displayed on Page 2 are the biggest of each category (mainsail, jib/genoa, symmetric spinnaker, asymmetric spinnaker and Code 0), which are used by the VPP calculations. The Measurement Inventory remains at the bottom of page 2.

- Optional Page 3 includes Sail plan with boat drawing scaled to the actual rig dimensions ï as in Club certificates - and the complete sails inventory.

ORC Club Certificate

- A new Stability box is added displaying the Limit of Positive Stability (LPS), with a note about whether it is estimated, and the Stability Index and maximum OSR Category for which the boat is eligible. There is also a warning displayed if the estimated LPS is less than 103 degrees.

- Rated sail areas are printed on boat drawing next to each sail, and the pole is lowered when Asymmetric on pole configuration is set.

Green Book

- IMS 50 and IMS 600 are deleted; IMS 670 is renamed to ORC 670.

- ***Championship Rule 3.1*** is changed to require that the application to a host championship event be sent not later than two years in advance and at least 30 days prior the AGM.

- ***Standard NoR clause 12, Standard SI clauses 10.1 and 11.5*** are updated with RRS 2009-2012.

- ***Standard NoR clause 17 and Standard SI clause 18.2*** are changed to limit communication of any information not publicly available to all participating boats.

- ***ORC Classes Rule 4.1(a)*** is changed to allow carbon rudder wheels in the ORC 670 Class.

- ***ORC Classes Rule 4.1(b)*** is deleted and removes requirements for interior volume for Sportboats.

- ***ORC Classes Rule 4.1(d)*** is changed by setting Offshore Special Regulations Category 5 for Sportboats unless otherwise specified in the Notice of Race and Sailing Instructions.

GP Class Rules

- GP Class Rules are re-written in simplified format that follows IMS as International Measurement System and ERS definition. There is no change of the rule, except that crew weight for GP 33 is increased to 640 kg. Class rules for GP 26, GP 33 and GP 42 are now published as three different stand-alone documents.