

Summary of the changes to the ORC Rules and Regulations as approved  
at the **ORC Annual General Meeting** held in Muscat, Oman on 13 November 2013

## VPP – Velocity Prediction Program

### ▪ *Hydrodynamics:*

- The new Residuary Resistance formulation has been fine-tuned to be based on waterplane inertia so that it is more accurate at a variety of heel angles
- Induced drag for canting keels and canards is being refined for their effective draft
- Boats with a double fixed keel with bulb and boats with canting keels and water ballast can now be rated

### ▪ *Aerodynamics*

- From data analyzed from recent wind tunnel tests, the power function for downwind sails on boats with  $ISP < 0.95 \cdot (P + BAS)$  has been modified to avoid typeforming versus slightly fractional sail plans
- From studies using the Open FOAM CFD code, the de-powering function has been improved with a new  $Cl - Cd^2$  curve
- A new concept of headsails is now defined as any sail with mid width less than 75%. Limits on battens and roach on a genoa are removed
- Aerodynamic lift coefficients are modified for each of following configurations: headsail on the forestay, headsail set flying and headsail set flying with tight luff. An additional correction of the lift coefficient is added when there are battens on a headsail

- *Maximum Elastic Modulus* is increased for carbon in the Default Mast Weight

- *Offshore Single Number (OSN)* is slightly modified to

<i>TWS</i>	<i>8</i>	<i>12</i>	<i>16</i>
<i>Beat VMG</i>	40%	30%	20%
<i>60</i>	5%	15%	20%
<i>90</i>	5%	10%	15%
<i>120</i>	5%	15%	20%
<i>150</i>	5%	15%	15%
<i>Run VMG</i>	40%	15%	10%

- Rating credit for all *woven polyester (Dacron) sails* is extended to both ORC International and ORC Club certificates
- A penalty of 3% on the *Righting moment not measured* in ORC Club is introduced giving an advantage to boats that are more completely measured

## IMS – International Measurement System

- Station spacing and positioning within the offset file are clarified in **Rules B2.2 (b), (c), and (d)**.
- Measurement trim definition and freeboard measurements are moved from Part E to Part B with no changes, as Part E now contains only rules related to the inclining test and stability measurements.
- New section of Part B in **Rules B6.1 and B6.5-11** defines hull measurements that can be calculated from the OFF file with flotation measurement or obtained from direct measurement. It is consistent with the UMS concept where these measurements may be used by HPR or GP Class Rules. In addition, there are now illustrations of these measurements.
- **Rule B7.4** is clarified without any change in meaning.
- New identification for light materials such as titanium or carbon used in lifeline elements (stanchions, pulpits, pushpits etc..) is added in **Rule B7.5**.
- Individual keel measurements are added in the **Rule C1**. These are not needed when the keel is measured within the offset file, but are consistent with the UMS concept and may be used by HPR or GP Class Rules.
- “Shaft not exposed” propeller installation is re-introduced in **Rule D3.3**.
- Measurements for “Shaft not exposed” are added in **Rule D4.17(c)**.
- **Rule F1.3** is clarified without any change in meaning.
- Limit Mark definition is added in **Rule F1.5(e)**.
- ISP measurement is amended in **Rule F3.2** to include height of the hoist of the headsail set flying.
- Reference to “jib/genoa” is changed to “headsail” in the **Rules F5.3, F6.5, F9.8 and G1.5**.
- New measurement **CPD** is added in **Rule F6.4**. It is consistent with the UMS concept and use in HPR Class Rules
- TPS measurement is amended in **Rule F7.2** to now include the tack point of the headsail set flying.
- Diagrams for illustration of main rig measurements are added.
- “Seven-Eight Leech Point” is replaced with “Upper Leech Point” following ERS definition in **rule G1.4** as well as “Seven-Eight Width” with “Upper Width” in **Rule G2.1**.
- New headsail definition in **Rule G4.1** defines headsail with width between the midpoints of its luff and leech less than 75% of the foot length using the same principle as RRS 50.4. New measurements for the headsail include the existence of battens and a notification if the headsail is set flying. Headsails with a distance between the half luff point and the half leech point of 55% or more of the



foot length (formerly known as Code 0) if measured before 01/01/2014 may retain SLU, SLE, AMG and ASF as measured.

- **Rules G4.4 and G4.5** are deleted to remove any limits on battens and roach on the headsails.
- The spinnaker definition of half width of 75% or more of the foot length in **Rule G6.1** is now limited to spinnakers conforming to RRS 50.4, while a sail formerly known as a “Code 0” with a half width of 55 – 75% of the foot length is now considered and measured as a headsail.
- Illustrations of sail measurements are added.

## ORC Rating Systems

- A list of measurements with the appropriate IMS rule used in the ORC Rating Systems is now added in the Introduction.
- Permitted materials in **Rule 101.2** are updated following current standards and practices to be more inclusive of features found on modern offshore race boats.
- A penalty of 3% on default righting moment is added in **Rule 107.5**. This penalty applies only in ORC Club certificates when righting moment is not measured or obtained from other sources. Furthermore, if a default righting moment is used, it shall not be taken less than one that produces a limit of positive stability (LPS) of 103.0 degrees (or 90.0 degrees for an ORC Sportboat).
- Headsail measured area is updated in **Rule 111.1** with grandfathering of headsails with a distance between the half luff point and half leech point of 55% or more of the foot length (on sails formerly known as Code 0's measured with SLU, SLE, AMG, ASF) with a corrector of 0.94 for areas calculated with two different set of measurements.
- A new default measurement for JH is added in **Rule 112.2** together with a requirement to include all measurements on any headsail with a leech roach.
- Headsail rated area is updated in **Rules 111.3 and 111.4** and is defined as the largest measured area for each headsail set on the forestay and any headsails set flying in the sail inventory. Aerodynamic lift coefficients of the VPP calculations are selected from: headsail on the forestay, headsail set flying or headsail set flying with tight luff. Coefficients for tight luff headsail set flying are in use whenever there is one such sail in the sail inventory. If any of the headsails in the sail inventory have battens, the lift coefficient is multiplied with an appropriate factor.
- Rating credit on use of woven polyester (Dacron) sails is now extended to both ORC International and ORC Club certificates in **Rule 111.4**.
- Reference to “jib/genoa” is changed to “headsail” in **Rule 113.3**.



- All references to sails formerly known Code 0's are deleted in **Rule 114** because these sails are now measured as headsails.
- A mast jack pump is now allowed to be on board, but cannot be used while racing in amended **Rule 205.2**.
- The number of sails allowed on board while racing and the tacking and sheeting of headsails and spinnakers are updated to the new headsail definition concept in **Rules 206 – 208**.
- **Rule 306** is clarified without any change in meaning.

## Green Book

- ORC Championship Rules are updated with more detailed criteria for hosting authorities as specified for all level events
- An option of a shortened format for Continental and Regional Championships is introduced, while the format for the World Championship remains the same

## ORC International Certificate

- Special scoring coefficients for Double Handed and No Spinnaker configuration are updated with both **OSN (Offshore Single Number)** and **GPH (General Purpose Handicap)**
- When entered in the DXT file, **Craft Identification Number (CIN)** is printed with the Age Date
- **CPW, SPS, BAL** and **BWT** are removed from the Rig Measurements box as not affecting rating
- Sails box on Page 2 is modified to include list of up to 11 **headsails**, sorted by measured area, while rated area is printed only when it is different from the biggest measured area for each of headsail set on the forestay and set flying.
- There are two new flags provided for headsails, indicating the sail is set flying and/or has battens.

## ORC Club Certificate

- Special scoring coefficients for Double Handed and No Spinnaker configuration are updated with both **OSN (Offshore Single Number)** and **GPH (General Purpose Handicap)**