OFFSHORE RACING COUNCIL

World Leader in Rating Technology

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Minutes of the **Measurement Committee** held on November 7-8th, 2003 in Barcelona, Spain, Le Meridien Hotel.

Present: Nicola Sironi (Chief Measurer)
Jean-Louis Conti (Deputy Chief Measurer)
Dan Nowlan
Theodossios Tsaltas
Gerd Kall
Flemming Nielsen
Pablo Ferrer

Observers: Abraham Rosemberg BRA
Konstadina Sfakianaki GRE
Miguel Rosa ESP
Hans Zuiderbaan NED
Boris Hepp GER
Dimitris Zainakis GRE
Idoia Camiruaga ESP
Helmuth Gelmini AUT
Adrienne Prosenz AUT
Zoran Grubica CRO
Neven Baran CRO
Minoru Tomita JPN

Committee Membership

The meeting opened holding a silence in memory of Robin Glover, who was the Chief Measurer of the ORC for many years, and of John Warren, very active member of the Committee among his other titles, who left us recently.

1. **Use of Water Ballast (also Submission AYF1)**

The Committee agreed and confirmed the scheme approved last year, which only requires the measurement of the tank capacity. It was reported that the measurement is better when done with an appropriate flow meter, whose cost is reasonable. The measurement by calculation, measuring freeboards with tanks empty and then again with tanks on both sides pressed up and deriving through the LPP hydrostatic output for the two trims the correct tanks capacity has proven somewhat cumbersome.

The ballast lever measurement discussed in ITC has not been addressed.

2. Inclining test/instruments

Good progress has been made in the last year on the availability of new electronic instruments for inclining. 2 different and working prototypes were presented at the meeting, complete with software:

One has been developed by El Pardo Institution near Madrid using a commercial ï certified - sensor which the RFEV intends to produce in a small production series once it will be approved so it could be used for official IMS measurements.
The second which was already shown in an earlier version uses an innovative ï custom - sensor.

It was agreed that in order to obtain approval some testing was needed, by the Chief Measurer and a few selected Measurers. It was agreed that the prototypes would be sent for this purpose.

A third option has been identified in a commercially available unit, manufactured by Applied Geomechanics in California, whose software has to be modified to fit the needs of the inclining test. The Company, which was contacted earlier in the year has declared they would be available to do some modifications if some units would be purchased.

The existing electronic inclinometers have shown however a consistent reliability.

The Committee agreed to put together and publish some specifications for the new instruments under development and the exact algorithms to be used to reduce the recorded angle data into PD measurements. This was deferred until the existing model calculation details would be known.

3. Hull Measurement Machines / Maintenance

Good progress has also been achieved in the identification of new equipments for the hull measurement. In addition to the experiments carried out by US Sailing using the laser tracker (SMX) that was purchased in 2002, some alternative experiments have been carried out in Europe. An expensive and sophisticated 3d Laser scanner has been used to measure boats in 2 different occasions and countries. The equipment is capable of acquiring an enormous amount of points but the extraction of the points that are really needed to build an Offsets hull file without the need of a surface creation is being developed but has not been finalized.

2 more boats have been measured using less sophisticated and much less expensive laser based topographic theodolites. The equipment is able to produce an OFF file without too much work for data reduction, and requires an amount of human work comparable with what is needed with the current ñwandingò machines. Being these instruments commercially available and not dedicated to boat measurement, they could be hired, borrowed or shared with other people able to use them for other applications, without needing the large investment of a purchase.

The Chief Measurer asked to be kept informed on the experiments being carried out in different countries, reminding that they are not to be used to produce an ñofficialò OFF file yet, until a standard procedure and testing of different equipments will be completed.

4. Submissions

AYF 1 - See Par. 1

KNWV 1 The Committee recommends the inclusion of a new field in the DAT file to represent TPS, to improve the assessment of different spinnaker areas. It is intended to be used for Asymmetric spinnakers only, and not have an influence on the calculation of the Symmetric spinnaker area.

KNWV 2 It was noted that with a ñpdfò writer a computer image of an ORC Club certificate could be obtained, without the need of printing it on paper. Some cheaper alternatives to the original Acrobat software to write a ñpdfò file are available on the market.

KNWV 3 The Committee agrees in principle on the concept of publishing IMS / ORC Club certificates on the website. Recognizing however that the question has some national variations with legal implications in some countries and that it cannot be done centrally, discretion should be given to relevant Rating Offices for their websites.

KNWV 4 The current way to handle measurement data does not allow to calculate the actual area of sails that are cut in different shapes for different purposes, therefore the proposal, which was raised in previous meetings, is not currently implement able.

FIV 1 The Committee agrees on the Submission, permitting halyard locks but only on boats with LOA greater than 20m.

FIV 10 + RFEV 1 See ITC Minutes

RFEV 3 The proposal of tightening the Cruiser/Racer Regulations was not supported.

RFEV 5 Strut Drive installations. See ITC Minutes. The Committee agreed on the publication of the standard measurement for the known units in production.

RFEV 6 Some complaints were received about The Chief Measurer Interpretations not being circulated widely enough. The CM agreed to publish them on the ORC website in the future and to consider it as the most effective method of publication.

RFEV 10 HMI Maintenance The maintenance of machines has become difficult and expensive by US Sailing. Dan Nowlan agreed to put together a list of the main components that are part of the HMI assembly, so that they can be ordered and serviced by the users who are capable of doing so without having to send over the machine to US Sailing. The discussion on the topic ranged also over possible alternative solutions to replace unrepairable parts, in particular the laser lines self leveling able to trace a vertical plane, which could be used as a replacement for a faulty encoder arm strain gauge on the US HMIs, or the laser of the German hullscanners.

RFEV 11 New Hull measurement machines – See Par. 2

RFEV 12 It was agreed that the boat needs to be in one piece for the initial hull measurement, therefore measurement of hull and appendages separately is not permitted. In order to clarify this a wording change in the Rule is recommended in Par. 401.1 as follows: ñé .*Any appendage and any fairings,…*

However, manual measurements intended to modify offsets files according to actual modifications, errors found or any other inconsistency, this can be done but at the discretion of the relevant Rating Office. It was therefore recommended to add to Rule 503 the following wording: ñ*…appendages).Manual measurements of partial modifications of hull and/or appendages are permitted, at the discretion of the Rating Office."*

It was also noted that the modified requirements of station spacing in the bow that were approved in 2000 have not been included in the Rulebook wording. It is therefore recommended to add to the last paragraph of Rule 505.4 the following wording:
ñé *than 0.05*LOA. In the forward 15% of LOA,the spacing between stations of the two sides combined shall not be greater than 0.025% LOA"*

RFEV 13 The Committee agreed that any modification in way of deck to the mast longitudinal dimension would be bridged for the measurement of ñJò.

The meeting adjourned at 20:10