OFFSHORE RACING CONGRESS

World Leader in Rating Technology

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ITC – INTERNATIONAL TECHNICAL COMMITTEE

Minutes of a meeting of the **International Technical Committee** of the Offshore Racing Congress held on 30-31st October and 1st November 2009 at UVAI, Rome Italy.

Present: Alessandro Nazareth (Chairman)
Andy Claughton
David Lyons
Kay Enno Brink
Rob Pallard
Axel Mohnhaupt (research Associate)
Nicola Sironi (Chief Measurer)
Davide Battistin (ORC Programmer)
Zoran Grubisa (ORC Technical staff)
Quique Molinelli (ORC Technical staff)
Panayotis Papapostolou (ORC Technical staff)

Observers: Ab Pasman (KNWV)
Maurizio Cossutti (Italy)

Apologies for absence were received from committee members Manolo Ruiz de Elvira and Philippe Pallu and Research Associates, Fabio Fossati, Michael Richelsen.

The Committee thanked the UVAI for their hospitality and above all the staff for their assistance during the meeting.
The Committee thanks also the Italian Federation for hosting the whole committee for the Saturday dinner at CNRT.

1. General

1.1. Minutes of the last meeting

The minutes of the previous meeting in Delft were approved.

1.2. Submission review

Grouping various submissions according to the items they are referring to:

1.2.1.

AGE ALLOWANCE (ARG2 – ITA 3)

Reporting committee: ITC, MANAGEMENT COMMITTEE

ITC agreed that current maximum allowance is too high, but the increment obtained for any additional year is correct. So the decision was made that Age allowance will maintain the same annual increment, but will have a top value reduced from 1.3% to 0.975%, corresponding to an age of 15 years (0.065% per year unchanged). So the ORC Rating Rule 103.1 will be changed accordingly.

1.2.2.

MEASUREMENT OF HULL (AUS 1) –OFFSET FILES FOR NON MEASURED FILES (NED 6)

Reporting committee: MEASUREMENT COMMITTEE, ITC, MANAGEMENT COMMITTEE

The committee agrees about principle of accepting Designer Offsets to issue new ORC INTERNATIONAL certificates. The principle will be tested on the Australian fleet by the end of 2009. ITC drafted a procedure to validate these offsets files following the procedure that will be inserted in ORC Rating Rule 301.1:

IMS hull measurement as defined in IMS Part B may be replaced by designerôs data provided that:

a) Designer send to the ORC hull data in 3D surface format (like IGS) including hull and all appendages with fore and aft water plane reference points which shall be marked on both sides of the hull such that they can be used for flotation measurements. The longitudinal position of the reference points shall be inside the flotation waterline and not more than 0.05*LOA from the waterline ends

b) ORC Central Rating office will then create an OFF file which shall be validated by checking one or more of following:

- LOA, MB, deck beam at any stations, any section girth or height
- Displacement calculated by the LPP from the freeboard measurements compared with one coming from actual weighing or calculated from design waterline

This procedure shall be checked and approved by the ORC Chief Measurer and shall be used only for an exact type of boat with exact appendages for which the data is provided by designer.

It is ownerôs responsibility to ensure compliance, while the designer shall confirm by signed written declaration that the data provided are within the closest possible tolerances.

1.2.3.

MEASUREMENT OF CARBON MAST (AUS 2)

Reporting committee: MEASUREMENT COMMITTEE, ITC

The committee partially agreed with this Australian submission, removing the obligation of weighing the carbon mast but not accepting the declaration of weight coming from the designer or mast builder.

If there is a carbon mast and it is weighed MWT and MCG will be taken as measured values. If it is not measured, a new default mast weight and VCG for carbon masts has been formulated. At the same time a new field for Fibre rigging will be introduced along with the new default rigging weight for a non-weighed mast.

Carbon mast default will be substantially lighter than the present Default mast tube weight (in the ratio of SQRT (Ealuminium/Ecarbon)) considering Ealuminium=70000 MPa and Ecarbon=130000 MPa, while the Fibre rigging default weight is fixed as the 20% of rigging default weight.

IMS Rule F9.8 will be changed accordingly.

1.2.4.

DEFAULT CREW WEIGHT (ESP 1)

Reporting committee: ITC

The very small difference that is returned when certificates are issued either with default crew weight or declaring a crew weight that is the same of the default is due to rounding problems inside the VPP (default crew weight is used in VPP with double precision decimals). So the code will be corrected to remove this small discrepancy.

The second part of the submission has been verified and it was clarified that there is no relationship between default crew weight and declared one.

1.2.5.

DATA ON CERTIFICATE (AUT 1)

Reporting committee: ITC

The committee agreed to also add PLT and PLD on the certificate for ñnon-spinnakerò configuration, to allow this kind of race to be scored with Performance Line system. The ORC staff will work to modify the layout of the certificate to allocate these two values.

1.2.6.

NON-SPINNAKER CONFIGURATION (ESP 4) – NO SPINNAKER (ITA 1) – NON SPINNAKER RATING (NED 2)

Reporting committee: ITC

The difference between the Special Scoring GPH to be used in races for ñCruising Canvasò (non-spinnaker races) that is printed on the bottom right of the first page of the certificate and the GPH obtained when a boat declares a non-spinnaker configuration (i.e. no spinnaker is measured in the sail inventory) is due to a different way of computing the polar speeds in theses two cases.

The first one is obtained with poled jib coefficients, the second one considering a ñdummyò spinnaker area equal to half of the default area. To avoid any confusion it is proposed to unify the two GPHôs so that no difference will be found.

To verify the current treatment of ñno-spinnakerò configuration ITC made some tests during the meeting comparing the speed of a boat carrying an asymmetric sail on CL with same area of the jib against the boat with the ñdummyò spinnaker. The first configuration always tested faster, so since a jib will never be so efficient as an asymmetric sail, the committee feels comfortable implementing that for the ñno spinnaker configurationò the handicap will be computed with an asymmetric sail on CL with the same area as the jib.

1.2.7.

SPL AND TPS (ESP 5) – SPINNAKER POLE (ITA 2) – SPL & TPS (NED 3)

Reporting committee: ITC

Following the above submissions the ITC discussed the effect on speed of a longer pole which takes the kite away from mainsail coverage. The leading factor that could assess this was located in the ratio SPL/SMG or TPS/AMG and so a revised blanketing function was proposed and tested to reproduce the influence of SPL or TPS length on spinnaker performances. This new function will take into account the more exposed sail area to the apparent wind (less coverage from mainsail) that is obtained with a longer pole (SPL) or bowsprit (TPS), but its effect will be smoothed by the ratio between measured sail area over default one. In any case when SPL or TPS are smaller than J the blanketing function won't have effect, while the increase of power of the spinnaker with longer poles or bowsprit will be limited to a maximum of 20%.

1.2.8.

SPINNAKERS ON REACH (FIN 1)

Reporting committee: ITC

The committee already monitored the crossover point between jib and spinnaker at small true wind angles. The committee tried to address this with VPP parameters that could influence the crossover point:

a) Center of effort height of kites too low
b) Lift coefficients at small apparent wind angles too low
c) Flat parameter too low
d) Reef parameter too low

A test run on the above parameters showed that the factor that could have the most influence on the crossover point is the reef, so a new procedure with a limited minimum reef of 0.9 (that means a 20% reduction of sail area) for spinnaker configuration was adopted to move the crossover point to wider values of TWA.

1.2.9. ASYMMETRIC SPINNAKER AND CODE 0 TREATMENT (FIN 2)

Reporting committee: ITC

The committee believes that the treatment of asymmetric spinnakers is fair, but that the crossover should be checked in a better way (see above 1.2.8. FIN 1 subm.), while the Code 0 issue should be treated more carefully. In fact it is very difficult that a Code 0 with a 74.9% mid girth could have efficiency similar to a same area Code 0 with a smaller mid girth.

In addition, it should be considered that usually Code 0 sails have an overall area less than a normal asymmetrical spinnaker, so the jump in handicap from a 75% to a 74.9% asymmetric is explainable with:

a) Too much roach for a Code 0
b) Too much sail area
c) Sail coefficients derived from tests with a 58% and a 63% mid girth Code 0 and then averaged

The committee feels comfortable in leaving unchanged the current treatment of Code 0 sails.

1.2.10. OVERALL TREATMENT ON A BEAT (FIN 3)

Reporting committee: ITC

The new aero models and depowering system introduced last year will be improved in 2010 (see 2.1. below). This will imply more differences in strong winds. The effect of flat decoupled from reef, the increase of the minFLAT value and the use of the same minJib area before beginning to reef will change the treatment of overlapping configuration in a more fair way.

Last year and also this year the DA parameter SA/DSPL for overlapping jib (see 5. below) will be revised giving a further advantage to this sail configuration.

1.2.11. VPP & UPBEAT SPINNAKERS (FRA 2)

Reporting committee: ITC

After checking the figures of the table attached, ITC believes that there are many issues not so clearly connected to this submission:

a) It is very difficult for a symmetric spinnaker to be as efficient as a jib, also if slightly bigger at small TWA
b) A Symmetrical Spinnaker should be set on a pole, hence the difficulty to tighten the luff as a jib
c) It should be more efficient if produced with an asymmetrical shape or even with a Code 0 shape (with reduced mid girth)
d) The FIN2 submission (see 1.2.9. above) is claiming that a Code 0 is not so fairly treated, but if we should revise spinnaker coefficients at small TWA, speeding up the boats, we should as a result speed up asymmetric and Code 0 sails at the same angles. So it seems that the two submissions are asking two opposing solutions.

As a result the committee feels comfortable in leaving unchanged the current treatment of spinnakers as already decided for Code 0.

1.2.12. TWIN KEELS (FRA 3)

Reporting committee: ITC

For the ORC club certificates it will be possible to issue them for these boats as the double keel could be simplified in a single one with the same surface and depth, as it was done for many years with the double rudder configuration. Next year ITC will insert in the agenda a study of this new configuration.

1.2.13. SPINNAKER AREA (FRA 4)

Reporting committee: ITC

Last year the ITC introduced a single formulation for assessing spinnaker area as SL*(SF+4*SMG)/6. This is the simple transformation and simplification of the old ORC formulation for asymmetrical spinnakers (with very small differences due to truncated coefficients) used until 2008.

It is the IRC formulation that should be read with the 0.83 multiplier as 0.833333333 to become the same as the ORC formulation. Therefore, the committee does not support the submission.

1.2.14. FLOATATION DATE (FRA 5)

Reporting committee: ITC

Floatation date has an influence on handicaps if it is pre-1981 when boats were measured with sails on board. This will be fixed within the ORC Manager and VPP software taking the current date when floatation date is not entered.

1.2.15. MGT AND LARGE HEADBOARDS (FRA 6)

Reporting committee: MEASUREMENT COMMITTEE, ITC

After several proposed solutions, it was found that the easiest and the most correct one is to leave the measurement method as it is now, using the ERS scheme, but changing the VPP internal calculation of the mainsail area assessing the real vertical positions where mainsail girths are taken. Furthermore, such vertical positions will also be used in the drawing on the certificates to better represent the real sail shape.

1.2.16. OFFSET FILE EDITOR (FRA 8)

Reporting committee: ITC

NAUTATEC IWM Offset Editor is almost ready to be distributed by ORC as OFF editor. The new Editor will hopefully be included in next yearôs ORC distribution.

1.2.17. HEAVY ITEMS (GER 1)

Reporting committee: ITC

ITC agrees with the German submission that there is no longer a need for this allowance for heavy items, that are no longer being carried on racing boats. Only the anchor and chain weight will remain as gyradius correctors if placed in the bow (max 30% of LOA from stem). In addition to this, the current aerodynamic treatment of jib furler used in conjunction with only one jib for ORC CLUB will be extended also to ORCi.

1.2.18. ACCOMMODATION DIVISION (GER 2)

Reporting committee: ITC, MANAGEMENT COMMITTEE

The Cruiser Division regulations have been part of a complete revision of all Regulations (see below 4.). ITC agrees with the German submission of merging all non-cruising boats in a single ñPerformanceò division that will include the old ñRacingò and ñNoneò categories.

1.2.19. BMAX EVALUATION BY VPP (GER 4)

Reporting committee: ITC

To avoid the effect where currently splined calculated BMAX could return odd values with BMAX larger than reality, ITC agreed to assume BMAX to be the maximum beam measured from the sections in the offsets. This has no effect on handicaps.

1.2.20. DEFAULT AMG (GRE 1)

Reporting committee: ITC

Taking into account that some cruising boats could have only small gennakers with even AMG<0.75*ASF, it was decided that in those cases the VPP will artificially increase the AMG measured to the default value of 0.75*ASF and the asymmetric on CL coefficients will be used.

1.2.21. POWER ASSISTANCE WHILE RACING (ITA 5)

Reporting committee: ITC, MANAGEMENT COMMITTEE

ITC agrees with the submission that power-assisted winches are becoming widely used now, and a lot of cruising yachts canôt race with reduced crew without the use of their electric or hydraulic winches.

For this reason the committee agreed to allow the use of those winches and all power-assisted systems on board (apart from direct propulsion), but only for Cruiser/Racer boats.

These boats will have a maximum penalty of a 0.5% applied to all handicaps that will be reduced to be the ratio between declared crew weight and default crew weight.

1.2.22. SPINNAKER CONFIGURATION (NED 1)

Reporting committee: ITC

The committee supports the need of clarification which is proposed in ORC Rule 206.4

Sail configurations may be used as follows:

If TPS is measured any spinnaker (symmetric, asymmetric or Code 0) may be tacked on the centerline.

If SPL and symmetric or asymmetric spinnakers are measured, each of them may be tacked to the pole. Code 0ôs shall not be tacked on the pole.

If SPL is measured, a jib may be tacked to the spinnaker pole.

Furthermore it was agreed to delete Rules 207.4 and 207.5 allowing double jib and poled jib configurations

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1.2.23. MAXIMUM AREA OF STORM SAILS (NOR 1)

Reporting committee: ITC

The committee basically agrees with this submission, but this being an issue for the ISAF Special Regulations Committee, David Lyons, also a member of that Committee, will discuss this problem during next meeting in Busan.

1.2.24. MAXIMUM AMOUNT OF MEASUREMENTS IN ORC CLUB (NOR 2)

Reporting committee: ITC, MANAGEMENT COMMITTEE, CLUB WORKING GROUP

The ITC is still convinced that ORC CLUB certificates should be issued even if the boat has a valid inclining and floatation measurement. The default values were introduced only to simplify the issuing of CLUB certificates when owners donôt want to have a complete set of measurements.

The default values were kept high and derived from a statistical analysis of the fleet to avoid any possible advantage for CLUB, but not to impose different measurements in ORCi and CLUB. It is possible that some boats could be designed to exceed these default values, therefore it is left to good common sense to use measured ï or estimated - data to avoid any exploitation.

National Authorities and Rating Offices can issue some prescriptions if they want to protect the existing CLUB fleets with certificates based mainly on default values.

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2. Aerodynamics

2.1. <u>New Upwind Aero Model upgrade</u>

After the Delft meeting the proposal of improving the new aero model was approved with the following scheme:

1. Use FLAT and REEF parameters in sequence and decoupled, thus making the depowering more related to the way boats are sailed by reducing the sailsô camber (flattening) and then reducing their area (reefing)
2. Fix a minFLAT = 0.6 that is more realistic (currently it is set at 0.4)
3. Change the minFLAT for light boats (that have flatter sails) reducing the 0.6 of the same amount of the flat measured at 8 kts of wind. As an example, if at 8 kts FLAT=0.8 the minFLAT will become 0.48 (0.8*0.6=0.48)
4. Use the same amount of minimum jib area before beginning to reef the mainsail, making this not dependent from the initial overlap

Davide Battistin coded the above scheme and made test runs that showed satisfactory results, because the difference with 2009 was not so large, and in strong winds some of the problems that were encountered this year were reduced.
It was also noted that generally the VPP run speeds were increased, so the corrections were effective in this manner as well.
Davide Battistin explained that with some more work to be done on the optimizer after the AGM it will be possible (thanks to the above new depowering scheme) to even reduce theVPP run speed even further without changing the final handicap output.

The item was agreed and the new coding will be included into the beta VPP.

3. Hydrodynamics

3.1. Truncated sterns treatment and Fn Transition

After the Delft meeting Davide Battistin prepared test runs on Axel Mohnhauptôs study on length, overhangs and truncated sterns.
There has also been some further refinements to the formulation with the removal of a tail effect to LSM4.
This an excerpt of a detailed description:

FROM AXEL MOHNHAUPT DOCUMENT

Description of the new IMS-L, the Fn transformation, and immersed transom drag calculation procedure

A) IMS-L

1) LSM4, which is the integrated length of the boat in the sunk condition, is no longer used with the so-called tail effect, which increases the length if the boat transom is immersed in this sunk condition. Therefore the resulting IMS-L of many boats is decreasing, more for boats with a low transom and less for boats with higher transoms.

B) Fn Transformation

A number of studies on stepwise truncated overhangs performed in Towing Tanks in St.Johnôs, Southampton, and Delft provided the data to devise a method to adjust the residuary resistance for boats which have different overhangs than the Delft models, of which the tank test results are the base for the resistance estimate.

In order to calculate the residuary resistance for a boat, the residuary resistance curve obtained by means of the table of coefficients is modified by changing the Fn for overhang ratios smaller or greater than 0.135, which is the standard for the Delft models. The overhang ratios are taken as LSM5c/LSM1c, where LSM5c is the integrated L of the boat sunk to the lowest point of the transom. It reflects the sailing length when the transom begins to be immersed. Both integrated parameters are calculated using the non-appended hull.

The change of the Fn is calculated as

dFn=Fn*(((LSM5c/LSM1c)/(LSM5c/LSM1c)$_{AverageDelft}$**.25-1)*(1+SIN((0.85-Fn)/0.5*3.1416))^.3/1.5

Fn_{corr}=Fn+dFn

This correction is valid over the full Fn-range from 0.125 to 0.9.

C) Immersed Transom Drag

1) The viscous drag due to immersed transoms is added as a component to the boatôs resistance. Hoernerôs formula for the base drag of a three-dimensional body is used for the drag calculation. It uses the frictional resistance of the boat, the speed, and the ratio of the transom area immersed in the stern wave and ASM1. This will be effective in the Fn-range from .2 to .425. At higher Fnôs this immersed transom drag remains constant.

2) The immersed transom area is dependent on the boatôs geometry and the stern wave generated by the boat. By analysing stern wave patterns of 13 models at three different Fn's, a good correlation between VLR and the wave height at the end of the WL, the separation point of the flow from the stern profile, as well as the wave height at the transom was found. The wave profile follows closely the overhang profile once it reaches the transom.

3) Two stern flow condition are considered:

a) In the case of the flow separation at the transom assuming a an overhang of .135*LSM1c, which is the standard of the Delft models, the wave heights are calculated for the end of static WL and the wave height at the transom. The Fn dependent wave heights at the transom of the boat to be rated is then found by interpolation between the two heights using its overhang length.

b) In the case of the flow separation from the overhang profile which occurs at lower Fn's, the wave height of the boatôs transom is found by linear interpolation between the wave height at the end of WL and the flow separation point where the wave separates from the stern profile.

The committee examined the test runs and observed that the trend was what was expected (short overhangs and transom-immersed boats slowed down), and thus agreed to approve the above procedure and to include it into the 2010 VPP.

4. Revision of Racing and Cruiser/racers Regulations

The working group that was appointed at the Annapolis meeting (David Lyons, Kay-Enno Brink and Nicola Sironi, working in conjunction with Zoran Grubisa) finalized their proposal for the simplifications of the Regulations for Cruising Division. A revised text has been prepared.

Here are the basic concepts on which these new Regulations are based:

These yachts have accommodation features designed for cruising and longer stays onboard compared with those primarily designed only for racing, and shall comply with Part 2 of these Regulations.

The requirements for the Cruiser/Racer Division are intended to ensure that:

- *The primary purpose of the yacht shall be for cruising.*
- *Accommodation layout and outfit shall be at least comparable to the standards of series-produced models which would find a broad market as cruising yachts.*
- *The yacht without modification is fully suitable and could be used for cruising.*

In recognition of variations in design of yachts found in the marketplace, the term 'should' is used so that some realistic flexibility of interpretation is allowable. Compliance shall be by owner declaration and is subject to checking by an ORC Measurer.

The Racing division will disappear and all yachts that donôt comply with Cruising Division will be grouped in the ñPerformance Divisionò where all yachts shall have to comply only with ISAF Special Regulations for Category 4.

5. Dynamic Allowance

In Annapolis Jim Schmicker brought to the attention of the ITC some strange behavior of handicaps related to DA not working correctly.
At the beginning of the 2009 season Davide Battistin already corrected a bug on asymmetrical spinnakers.
In addition looking at the way DA works, in particular the upwind parameter SA/DSPL, Davide noted that this parameter is more effective at strong wind speeds but is computed with the maximum sail area. This is not correct and is unfairly treating boats with overlapping jibs.
A revision of the SA/DSPL ratio credit has then been coded, test runs were prepared and ITC has agreed to its inclusion in the 2010 VPP.

6. Double rudder

The double rudder was finally coded starting from the inputs of manual rudder (rudder distance from bow, span, top and bottom chords and thicknesses, adding only two new inputs:

a) y-offset (distance from CL of rudder stocks)
b) angle of rudder stocks

The new model accounts for the portion out of the water when heeled.

The scheme for forces prediction is:

- viscous drag with the transitional flow scheme: full area of the leeward blade + submerged portion of windward one
- induced drag: existing scheme

It will be included into 2010 beta VPP.

7. Production of a 2010 Beta VPP before next AGM / recommendation to the Congress

Since the meeting was more than a week in advance to the next AGM and since all the items on the agenda are almost finalized, the ITC believes that in Busan it will be possible to distribute the 2010 Beta VPP that will include :

a) Fn transition and Truncated Sterns additional resistance, with tail effect removed (see 3.1)
b) Refinement of aero model (see 2.1)
c) New mainsail area calculation (see 1.2.15.)
d) SPL/TPS power function (see 1.2.7.)
e) Min REEF parameter for spinnaker configurations limited at 0.9 (see 1.2.8.)
f) Modified Dynamic Allowance with new UPSA/VOL credit taking into account as sail area MAIN+FORETRIANGLE (see 5.)
g) Deletion of HEAVY ITEMS, keeping only the gyradius adjustment for anchors and chain in the forward 30% zone (see 1.2.17).
h) Use of a single jib with furler with same sail coefficients already used in current ORC CLUB (see 1.2.17.)
i) New ñno spiò configuration treatment , with an asymmetric spinnaker on CL with the same surface as the jib (see 1.2.6)
j) New AGE ALLOWANCE, limited to 0.975 maximum (see 1.2.1)
k) Revision of default RM for MOVEABLE BALLAST (see last Delft meeting minutes)
l) DEFAULT CREW WEIGHT truncation problems fix (see 1.2.4)
m) New Default CARBON MAST weight formulation for unweighed carbon masts with Ecarbon=130 GPa and Default Fiber Rigging weight=30% of Default rig weight (see 1.2.3)
n) POWERED WINCHES penalty =0.5%, that will be reduced with the ratio Declared CW / Default CW. (see 1.2.21)

o) AMG FOR CODE0 increase to 75% of ASF, if the above asymmetric is the onlydownwind sail (see 1.2.20)
p) BMAX calculation fix (see 1.2.19.)
q) FLOATATION DATE problem fix (1.2.14.)
r) DOUBLE RUDDER implemented (see last Delft meeting minutes)
s) MANUAL RUDDER modified with frictional resistance aligned to that of the rudder contained into the offsets file (see last Delft minutes)

The above modifications represent the list of the Recommendation to the Congress, with addition of the revision of the Cruiser Regulations.

8. GP RULE revision: set up of an ITC working group on this item

ORC Chairman Bruno Finzi before the meeting asked Alessandro Nazareth to involve the ITC in revising the GP RULE and to appoint a working group to do this.
The ITC is of course available to work on this item but before beginning it is very important to know from various class representatives, owners and sailors, the main requirements. It is important also to have all the data available from the class (Class and ORC certificates of all the fleet, scoring, etc.).
One of the main concerns of the committee is that the current LVR of the GP42 is above 8, while all Delft models are mainly smaller (only one model is above 9 and all the others are below 7).
This means that some new very light models should be added to the Delft series to correctly assess the resistance of these light boats. So it was decided to ask Mancom for a minimum of 3 new models to be built and tested.

9. New LPP: Suggestions and Proposals

The ITC strongly believes that a new LPP should be re-written. Something has been already done in the code to better assess some problems arising from poorly-measured offsets.
The target of measuring separated appendages should be used as a starting point of the new LPP.
ITC suggests to start the LPP work at once, but if budget problems will impose a long working time, leave open the possibility of open post-processors that could be added later to improve the new LPP characteristics.

10. ORC Research Fund budget planning

The construction of new models is the priority of the research program of ITC (see also item 7).
The ITC has already last year asked for some funding for wind tunnel time to make some downwind tests to fix the crossover point between jib and spinnaker (see also 1.2.8).
These two programs should be part of a 2-year research program.

11. Strategic planning for work after this meeting; Main projects for 2010

- Possible introduction of a different de-powering scheme with Main+Jib configurations at wide TWA
- Possibility of utilizing a Leeway and Rudder angle calculation to accelerate solution runtime
- Jib-Spinnaker crossover increase of accuracy
- Induced drag revision for all appendages configurations
- Separate appendage measurement, and devise a different way of measuring appendages (e.g. with horizontal profiles)
- Keel strakes, big volume keels resistance assessment?
- Wing / bulb assessment with a new and simpler approach
- LPP revision?
- Update of documentation
- Heeled drag increase in accuracy
- New residuary Resistance
- GP RULE working group
- Analyze races looking for correlations between boat performances and characteristics

12. Next Meetings

The next ITC meeting has not yet been scheduled.

Possible locations could be Rome, Valencia, Hamburg, or Madrid if the meeting will be held in the same time as the local symposium ñDiseno de Yatesò
Another possibility is to hold the next meeting in the same location as the Measurerôs Conference.
In any case the aim of the Chairman is to hold the first meeting of the year not later than March 2010.

Observers are requested to contact the ORC Secretariat if they wish to attend and to obtain meeting details.