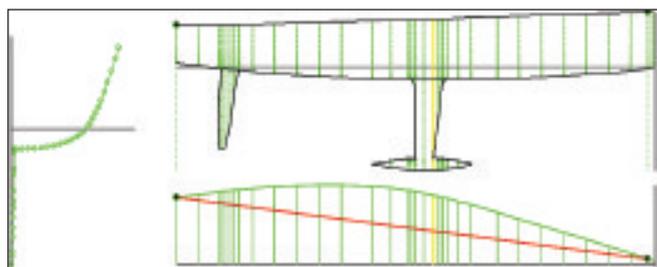


Refining the detail

The International Technical Committee (ITC) recently met in the UK to set out the work to be finalised for November's AGM in Athens (the UK meeting was scheduled for Hamburg but was postponed due to the actions of a certain volcano). Given positive feedback from ORC regattas this year the ITC have agreed to implement next year's VPP with few modifications. Any changes made will only take place after extensive testing to avoid any disruptive impact on relatively content ORC fleets. The ITC will, therefore, concentrate on turning the good science they have on the table into good handicapping, but with a moratorium on major development this year. The main items discussed are listed below.



Above: vertical offset files (this is a Farr GP42) have been key to characterising hull and appendage forms. Accepting these from known designers is greatly simplifying the measurement process. **Top:** the GP42s are fighting on at the 2010 Audi MedCup series, although one or two have also started to slip away to IRC or ORCi

Designer offset files

In 2009 original offset files were accepted to support new ORCi certificates. This was widely appreciated and helped encourage the use of ORCi in new sailing areas. There have, however, been some problems with accuracy, so the ORC chief measurer will be reinforcing the procedure by accepting only those files that include the hull and all appendages along with fore and aft water plane reference points.

These points shall be marked on both sides of the hull so that they can be used for flotation measurements. Other requirements will be checks of LOA, MB, deck beam at any station, and any section girth or height. Actual weight data, when available, will also be accepted to validate the offsets.

Truncated sterns

A fine-tuning of LPP procedures to derive parameters will be

performed to avoid cases of unwanted sensitivity to the transom measurement encountered in some offset files received.

New tank test models

Three new models are under construction in Delft. Two have been designed to be part of the systematic series, on the light side (high LVR) similar to the most aggressive boats on the racecourse today. These two models will be inserted into the regression for residuary and heeled drag to improve accuracy for these lighter boats.

The third has been designed with a shape as close as possible to a last-generation TP52. This one will be used only as a tool for validation of the new formulations obtained (mainly residuary drag) for this kind of boat, comparing VPP-computed drag to what is measured in the tank.

Separate appendage measurement

This has been on the agenda for many years. Since appendages are treated separately by the VPP, the possibility of measuring them separately from the canoe body would return some advantages – in particular that a change of appendages, which can happen often during a raceboat's life, will not require a re-measurement of the whole boat but only of the modified appendage(s). During 2010 the ORC programmer will study a modification to the LPP code that could accept separate data for the appendages consistent with the current treatment for canoe+appendages, and above all for the calculation of LPP parameters like appended integrated lengths (LSMs).

Jib/spinnaker crossovers

The problem of finding the crossover point between the jib and downwind sails had been

addressed last year but the new approach is proving unrealistic for certain boat types. To better tune this procedure the ITC will now investigate a different approach to handicapping in the reaching condition based not only on estimated performances but taking into account the so-called VMC (Velocity Made Course) concept often used in long offshore races, that will find the best combination of different courses to get to the same point. This is a new approach that illustrates how ORCi is a complete handicapping system rather than just a pure VPP.

Effective draft and reduced drag

In 2009 French engineer Philippe Pallu began a study to better address different combined appendage configurations in order to obtain a refined evaluation of induced drag, but which would not change the current treatment for a conventional configuration (fixed keel+rudder). A CFD study on a variety of appendage combinations has now been properly validated and it will shortly be employed to derive a new formulation for effective draft (MHSD) – which is the main parameter for computing induced drag.

Bulb/winglet assessment

A new LPP bulb/winglet characterisation is being studied to smooth out any brisk transitions in the evaluation of effective draft between the wing and more standard configurations.

Two other topics were discussed briefly: the treatment of Code Os for cruising/charter boats and of keels with unusually large volumes and/or areas. An updated version of the ORC VPP documentation prepared by Andy Claughton last year was also revised with comments and will be posted on the ORC website shortly.

Alessandro Nazareth, ITC chairman □