

Submission season

As we roll into mid-November the members of the ORC's numerous committees are heading towards their annual meetings in Sanya, China, to coincide with ISAF's own AGM. This arrangement is made every year due to the beneficial overlaps in committee membership and ORC's strong longterm relationship with ISAF.

The reports to congress will show overall that ORC has enjoyed another good year: ORC championships produced close competitive racing and saw record levels of participation (an exception was the ORC worlds in Barcelona where entries were limited by available space at the Port Vell venue). The preliminary statistics for 2015 also suggest that certificate numbers for this year will have grown again, with the aggregate total number of certificates issued to date passing 10,000 for the first time.

This year there are 37 submissions to the ORC from 11 countries, which seek to improve the rules and policies of the organisation; there will be much to discuss in Sanya. But a couple of weeks before this the International Technical Committee (ITC), chaired by Alessandro Nazareth, will have met in Delft in the Netherlands to discuss those submissions addressed specifically to them. These include technical matters related to the VPP treatment of modern hull shapes, new inclination procedures, scoring, crew weight, sail forces and added resistance in waves.

'We think the system is working well because interest in handicap racing is getting stronger again,' said Nazareth. 'But this also means we must stay alert in keeping ratings accurate while always remembering that we are working for a large and diverse fleet.' There are

now some 1,500 different designs on file in the ITC test fleet to help to underpin proposed changes to the upcoming year's VPP. Among the ideas suggested in the latest submissions:

- improve the boom stability test to make today's typical boat type more compatible with the traditional double pole method. With fewer and fewer boats carrying a conventional spinnaker pole this is an important refinement to accurately determining righting moment in the current era. Nazareth suggests that the improvement required is relatively small at around 1 per cent.
- examine how to further improve race results using the new Implied Wind method that was approved for use this year.
- determine how to better handle the default crew weight in small, light sportboats, where this can constitute a much more significant proportion of the total sailing weight.
- almost two decades ago there were the first concerns that as wind speed increased the added resistance due to waves was being overestimated, primarily because many popular sailing venues are in areas of relatively flat water (the example given then was Long Island Sound). A submission this year expresses concern that this effect is still a factor and in particular is not being recognised adequately for the smaller boats in the ORC fleet. Nazareth reckons this effect is also very small, but will have the ITC investigate further.

Other areas of investigation and refinement include:

- determining if the new-generation hull forms that carry their maximum beam aft to the stern are being treated fairly. There can be a pronounced asymmetry to these hull forms when a boat is heeled (*left*), although this is already at least partially recognised in the Induced Drag formulations that were implemented a few years ago. Compared to the previous method of relying on characterisations of the Longitudinal Centre of Buoyancy (LCB), the newer Residuary Resistance based on LVR and BTR treatment now allows designers more freedom to create these faster hull shapes.
- There is concern that the VPP's aero model is not treating mainsail and spinnaker sizing properly and is typeforming towards low-aspect mainsails and smaller spinnakers. This has been observed in the most competitive ORC fleets; it may be due to a trend in rated performance optimisations, or simply in

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When maximum beam runs all the way aft (*above*) then 'diagonal heeling' (*top*) is the inevitable result. An increasing challenge for the creators of grand prix racers like this TP52, Imoca and open class designers have wrestled with this phenomenon for years

efforts to squeeze down below a class rating limit.

There has been recent interest from the Sailing Yacht Research Foundation (SYRF) in contributing to studies focused on improving VPP aero modelling, but it is not clear yet where this may intersect with the ITC's own research agenda. This too will be discussed in Delft.

Due to the cyclical America's Cup brain drain, this year's ITC research agenda was rather light, but both Jason Ker and Ben Ainslie Racing technical director Andy Claughton will be joining the group, as in previous ITC meetings.

New talent is also appearing: Shaun Carkeek (previously of Botin-Carkeek) has moved from Cape Town to Palma, and having undertaken ORCi optimisation work for clients this year has concluded that 'there is now increasing promise of ORCi producing some interesting new boats'. He will be attending the ITC meeting in Delft as its newest member.

Some scepticism has been expressed recently about whether the ORC rule can stand up to the scrutiny of clever designers. With Ker, Jim Schmicker from Farr, Tobias Kohl from Judel-Vrolijk and now Carkeek involved, this certainly will receive their attention. And fortunately, for now at least, from within the ITC tent...

Doobs Davis

