

Farr 400s racing in the HPR regatta that ran alongside the Super Series in Miami last month. There has been little or no interest in the HPR system in Europe; however, there are plenty of boats in Europe that could live under HPR. The study of the HPR system being undertaken by the 52 Super Series could be significant



'Yacht technology is alive and well'

Such was the pronouncement by Andy Cloughton from the Wolfson Unit, who sat in as chairman pro tempore of ORC's International Technical Committee (ITC) at their last meeting in Annapolis. (Chair Alessandro Nazareth was off-games with a skiing injury, but was there in spirit and on Skype.)

This was not just a self-congratulating comment to highlight the ITC's ongoing work on improving the ORC rating system, but an observation of robust interest in the two-day 21st Chesapeake Sailing Yacht Symposium, also in Annapolis. At this biennial event organised by the Society of Naval Architects and Marine Engineers a variety of papers was presented by ITC members and others on topics ranging from the design and engineering of vessels from sail training ships to skiffs, to detailed computational analyses on aerodynamic topics like mainsail planform optimisation, to validation tests on the latest downwind sail models.

Significantly, the CSYS also revealed that the complete hydrodynamic data set from the Delft Systematic Series of some 60-70 models tested over the years is finally being made available. This will be a boon to all students in the field of hydrodynamic research.

But also included among these papers was an explanation of recent work done by the ITC on the new residuary resistance formulations in the 2013 VPP, which offers an important example of how science can be applied to the practical realities of rating systems.

Looking forward, the ITC research agenda for this year will include taking a similar approach to aero as it did to hydro – although with a little less urgency: the aero formulations are not thought to be in as much need of improvement relatively speaking. This process involves taking qualified input from sailors (including Dee Smith, who brought valuable feedback to the IRC gathering), collecting and analysing results, comparing them against existing models, and using new CFD tools (and maybe wind tunnel tests) for exploring improvements to the current aero model.

Having the new hydro formulation in place should also now allow for a more accurate examination of the aero model (this year the initial focus will be on downwind configurations).

One particularly good question was raised by an observer to the ITC meetings regarding 'social engineering', meaning the adjustment of algorithms with the intention of discouraging unseaworthy or otherwise undesirable design trends. It was explained

that the rule already incorporates several such features, encouraging a lower centre of gravity while also gently discouraging extreme draft. It was further explained that the ongoing improvements to the VPP are in general responding to observation; the ITC acts by attempting to identify the scientific cause of the observed trend and then adjusts or replaces formulations appropriately.

Another topic the ITC will explore this year will be extending the range of the VPP from its current 6-20kt of true wind speed. This is possible now with the recent improvements, but will be made available only for the ORC Speed Guide (VPP speeds and polar plots) that every boat with a valid certificate can order online – and a useful tool for evaluating performance.

Finally, in its role to assist in the development of HPR, the ITC will be looking at HPR issues including the thorny topic of facilitating the competitiveness of pre-HPR designs against newer rivals...

Putting it to the test

June's ORCi world championship in Ancona, Italy will be an important test for this 2013 VPP, as it will attract the best and brightest from the ORC fleet. With entries increasing steadily at these events over the past four years, the regatta hosts have wisely chosen to limit entries this year. The ITC are thus salivating at this opportunity to harvest good validation data!

Numerous good teams have already signed up, and it's safe to say this will be the best event yet in the ORC portfolio at attracting top boats and talent, albeit mainly from the Mediterranean region. Among these will be four TP52s of varying generations, other similar planing types like Farr 400s and GP42s, but also many new racer-cruisers typically laden with professional talent and shiny new sails. Those last-generation narrow IMS designs such as the Grand Soleil 42R will also be there in number, but no longer with the benefit of the previous hydro formulation that kept them so 'competitive' on non-planing windward-leeward courses...

And while not as numerous as in Class A, the serious programmes in Class B will also be bristling with talent and kit, and it will be interesting to watch how the 2013 VPP performs for this class. After all, the ORC system services far more boats in this size range than among the larger and faster glamour division...

Dobbs Davis, Andy Cloughton and Jason Ker

RICK TOMLINSON