

For the next trick

From its birth in November 1969 the Offshore Racing Council (now Congress) has been managing and developing international rule systems for monohull racing, primarily among offshore-capable yachts. With the IOR and later IMS the framework of measurement was extended and, with the continued development of the ORC's VPP, multiple scoring options evolved including the concept of Performance Curve Scoring (PCS) to serve the needs of diverse fleets.

Using the same VPP with a few tweaks to the measurement framework, ORC has also more recently developed a successful rating system for Superyachts, the ORCs rule, which is becoming increasingly popular at Superyacht regattas around the world.

Now ORC is taking on a new challenge: to develop a VPP-based system for multihulls called ORCmh, starting with the segment of luxury performance multihulls that formed the Offshore Multihull Association (OMA). This is no easy feat given the widely variable performance behaviours of these boats, but the need is there: there are more and more designers and builders getting into this market space and increasingly competitive owners wanting to race.

The process started with Larry Rosenfeld of Team Adventure fame developing the MultiRule system for the owners of the OMA: evidence-based polars derived from the measured performances

of the boats in each division using big data techniques.

The instrument log data recorded for every second of every race is then analysed by KND-Sailing Performance of Valencia. After post-calibrating for any instrument errors, they return a set of polars that are statistically derived from the data, finding the top speed of each boat for each wind angle and wind speed. KND do this type of work every day for top monohull teams and have now very capably applied it to these fast multihulls. The polars become the rating.

The course model is then inputted and Performance Curve Scoring is used to score the race, the winner being the boat that performed best compared to their polars. As more performance data is collected, the polars, and hence the ratings, get more accurate for each boat. An improvement for the scoring developed by Rosenfeld, with the support of OMA owners, is a mobile app that allows competitors to check time differences between boats at each mark.

Generally, multihulls are of course much more sensitive to weight than monohulls, so when competitors change the trim of their boats it is particularly important to adjust their polars (ratings). In some regattas a team may also have more or fewer crew, for example, or choose to carry cruising gear, or show up heavy on fuel.

This weight sensitivity made it important for displacement to be checked at each regatta and for this purpose a new electronic freeboard measurement apparatus called Archimedes was created.

It takes 20 minutes per boat to check the new displacement before the regatta and the ORCmh is developing the algorithm to adjust the polars for each change in displacement as a new feature for the 2019 season.

This approach worked well in OMA events held in the Caribbean and New England last year and at the Multihull Cup that was held in Mallorca in September 2018. The plan now is to continue to make improvements to this approach through the 2019 season starting this month at the BVI Spring Regatta in Tortola, followed by Les Voiles de St Barth, then the Loro Piana Regatta in Sardinia in June which for the first time is inviting multihulls to join the Superyachts.

The first meeting of the ORCmh group was held in January at KND's offices in Valencia. Members of the ORC technical staff, including Andy Claughton and Simon Forbes, as chief rating person for MOCRA for the past quarter century, met Larry Rosenfeld and the KND

team for two days to discuss the detailed processes of merging the ORC and MultiRule approaches and how to also use this work to refine current multihull VPPs going forward.

'The goal of the ORCmh,' says Bruno Finzi, chairman of ORC, 'is to create an accurate, fair and transparent rule for multihulls that can provide the basis for bringing all the multihulls together under one international rule. It will be particularly important to create flexibility in the process to allow the goals of many fleets to be met without compromising the goals of each fleet.'

'We are also in contact with the MOCRA fleet, and we are keen to talk too with any other multihull fleets out there to work with us to better understand their needs as we continue to develop ORCmh and include more boat types over time.'

'We see this approach as having great potential,' said Gino Morrelli, whose design firm Morrelli & Melvin have been early developers of this genre of performance luxury multihulls, first with the early Gunboats and now with the HH line of fast cats. 'Their ratings in smooth water and non-foiling conditions are converging quickly with our own VPP outputs, with a remaining challenge for all of us being how to handle rough water conditions. But the owners are all enthusiastic and supportive, so we are on the right track.'

Dobbs Davis and Larry Rosenfeld



INGRID ABERY



TIM WRIGHT

Charter companies realised years ago that Caribbean conditions are purpose made for multihulls so it's no surprise the region's winter circuit is benefiting so much from an influx of the new big cats – plus the occasional tri. Last year the lightweight Paul Bieker-designed *Fujin* (top) spoiled the party for many of her more luxurious rivals... right up to the moment she flipped in the Caribbean 600. This year it was the turn of the MOD 70 tri *Argo* to 'flash her foils' – this time before the race had even started