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Following the Radio Sailing fleet

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1 Introduction

Radio sailing provides a unique challenge for race officials. The boats are small but move rapidly and are highly manoeuvrable. Races are sailed in heats of 20 boats, with each heat lasting from 8 to 15 minutes. A major championship may consist of 25 or more races, each race with 5 heats. That is 125 starts, 750 mark roundings and 125 finishes spread over 6 days.

Race officials operate in a control area in close contact with the competitors. The boats may be up to 50 metres away, and the viewing angle for judging the relative position of boats may not be optimal. Furthermore, race officials must follow the boats along the bank, walking up to 600 metres every heat.

Radio sailing has a long tradition of using competitors not sailing in a heat as observers who hail contact between boats and between boats and marks. Observers and race officials work in close collaboration in a 'buddy system'.

As radio sailing uses a system of promotion from one heat to the next, incidents that give rise to protests involving boats that may be promoted must be resolved before the next heat can be sailed.

The race officials charged with assisting the competitors in following and enforcing the rules require a complex skill set:

- as umpires: the ability to read a rapidly evolving situation on the water and give consistent decisions throughout the event;
- as judges: the ability to handle procedures flexibly and rapidly, finding facts and reaching conclusions whilst under pressure from competitors, race committee and event organisers;
- as sailors: the ability to work alongside competitors, to assert their authority as race officials at the service of both the participants and the event.

To describe this skill set the term 'judge-umpire' has been used. At a major event it is common to work as a team of 7 'judge-umpires'. 4 'judge-umpires' follow each heat, whilst the three off duty handle hearings and administrative matters. The team must constitute an international jury under appendix N, and also have experience of umpiring. It has often been noted that experience of team racing umpiring is particularly relevant, in part because team racing umpiring involves the resolution of incidents involving multiple boats, but also because of the team work involved, with umpires switching their attention from one group of boats to another as the race evolves.

2 Basic Strategy

Each 'judge-umpire' (assisted by a competitor-observer) deals only with a small group of boats at any one time, no more than 6 or 7, but preferably 5. He relies on his other colleagues to each follow their allotted portion of the fleet.

'Judge-umpires' do not follow the same group of boats all the way round the course, but hand on their boats to another 'judge-umpire' following an agreed plan. This is especially important when the control area is unrestricted as it minimises the distance that each 'judge-umpire' walks in each heat. If each 'judge-umpire' can reduce the distance walked by 150 metres per heat then that reduces the total distance walked in a day with 20 heats by approximately 1.7 kms.

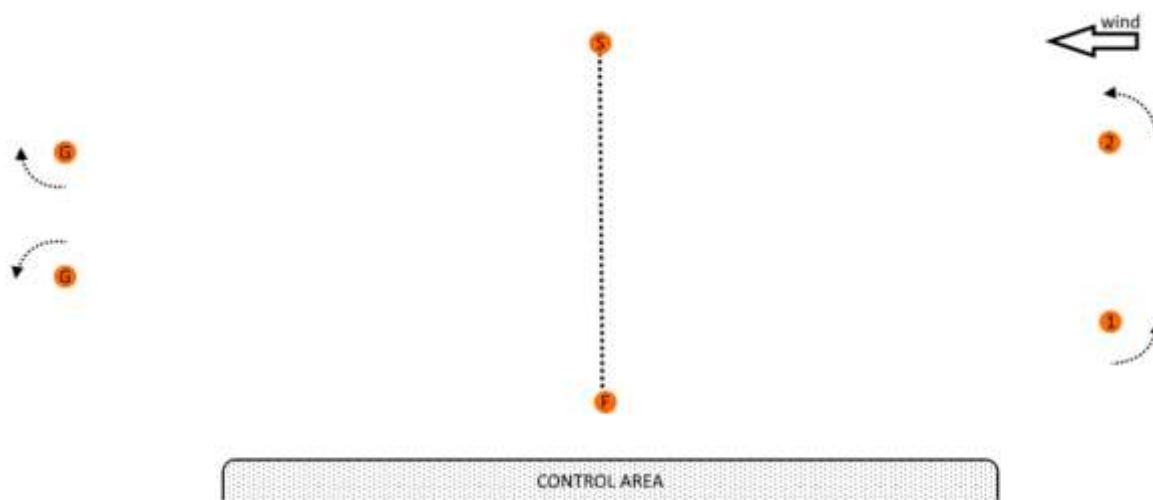
By following a 'route round the course' (concept developed by Chris Atkins), 'judge-umpires' are in a similar position to judge incidents at key points in every heat. Whilst this position may not be optimal, resulting from a compromise between many factors, by observing similar incidents from an almost identical position 'judge-umpires' can work towards consistency in their calls.

The strategy set out here uses an ever varying mix of zonal umpiring (observing a given sector of the fleet and/or race course) and umpiring of a specific group of boats. It requires 'judge-umpires' to follow an agreed plan, to be permanently aware of the positioning of their team colleagues to work as a team in supporting a colleague who is dealing with a complex situation and to communicate by words and signals with other team members throughout the heat.

The plan set out in this document has evolved over several years. Key moments in this development were the IOM Europeans in 2010 and 2014, the IOM Worlds in 2011 and 2015 and the Marblehead Worlds in 2014.

3 The 'route round the course'

Typical Radio Sailing Course (Start – 1 – 2 – Gate – 1 – 2 – Gate – Finish)



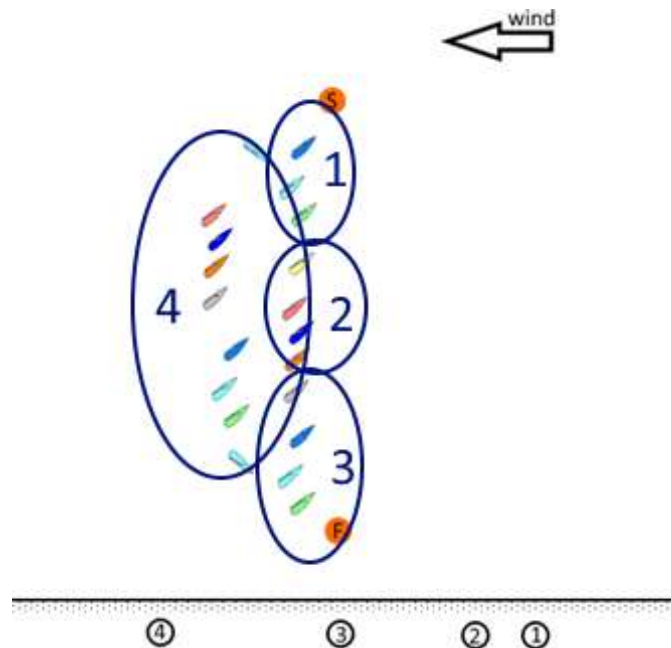
The concept of a 'route round the course' was developed by Chris Atkins for team race umpires. It gives a basic framework for the team effort of following a fleet of boats. By identifying the key points in the race and detailing the positioning of 'judge-umpires' to observe incidents at these key points an agreed plan is established so that officials can give consistent decisions. When events during the race lead a 'judge-umpire' to deviate from the agreed path the 'route' identifies the next key point and the position towards which the out of place official should head when he can.

The plan uses several conventions to describe the race course and the umpire roles:

- umpires are designated 1,2,3 and 4.
- the course is split in to sectors. As the control area remains more or less fixed throughout the event umpires always view the course from the same side. Therefore rather than refer to the left or right hand side of the course it is preferable to refer to the near side, the far side and the centre. These designations remain the same whichever direction the boats are sailing.

When the plan mentions the far end of the line, or the far side of the beat it is to be understood that that this refers to a group of boats that are furthest towards the far end of the line, or the group furthest away from the 'judge-umpires' position

3.1 The Start



During the starting procedure and immediately after the start 3 umpires observe boats on the start line, whilst a fourth observes boats behind the line and boats returning to start after a recall.

Umpire 1: the group of boats at far end of line

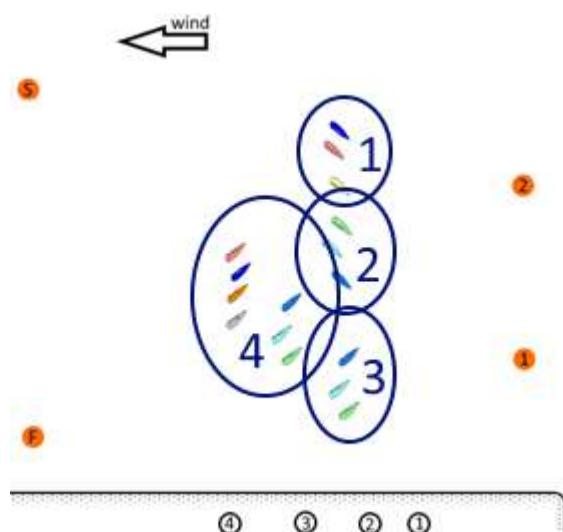
Umpire 2: the group of boats in the middle section of line

Umpire 3: the group of boats at the near end of line

Umpire 4: boats behind the line

Typically Umpire 1 will be positioned a few metres to windward of the start line, Umpire 3 on the start line with Umpire 2 between them. Umpire 4 stands to leeward to observe gaps between boats as they round up to start.

3.2 First beat



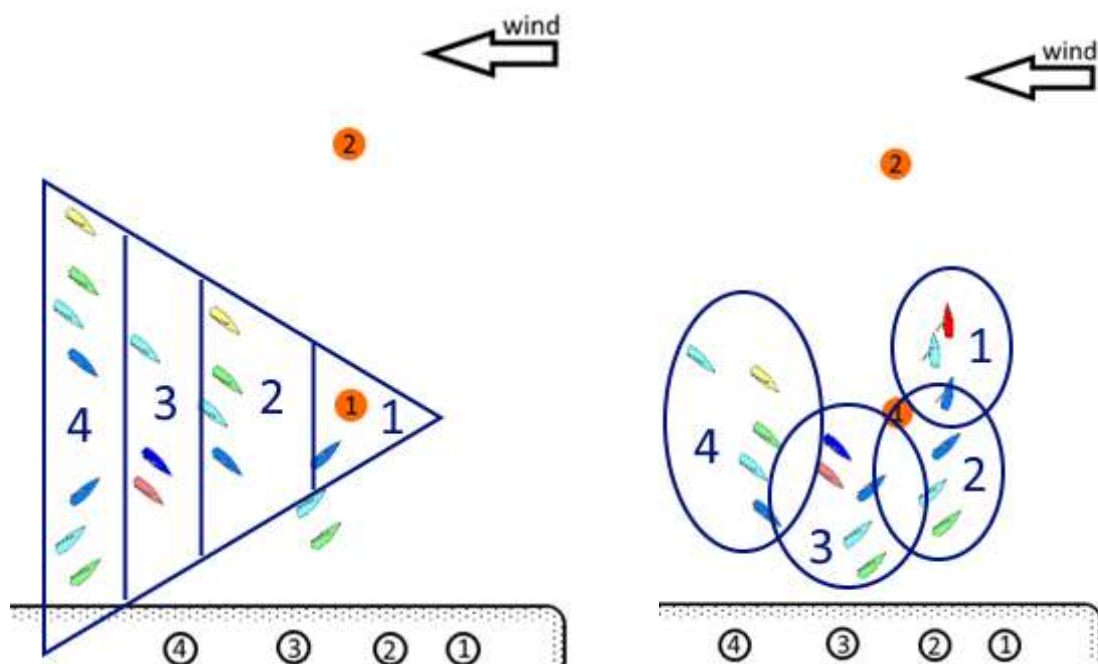
Umpire 1: boats sailing on the far side of beat

Umpire 2: boats sailing up the middle of beat,

Umpire 3: boats on near side of beat and, if appropriate, hailing for room to tack along the bank

Umpire 4: when all boats have cleared the start line, boats at the rear of the fleet

3.3 The approach to the windward mark, the windward mark and the offset mark



No later than when first boat reaches windward mark zone, but often before, depending on how the heat evolves, umpires switch to observing a group of 5 or 6 boats:

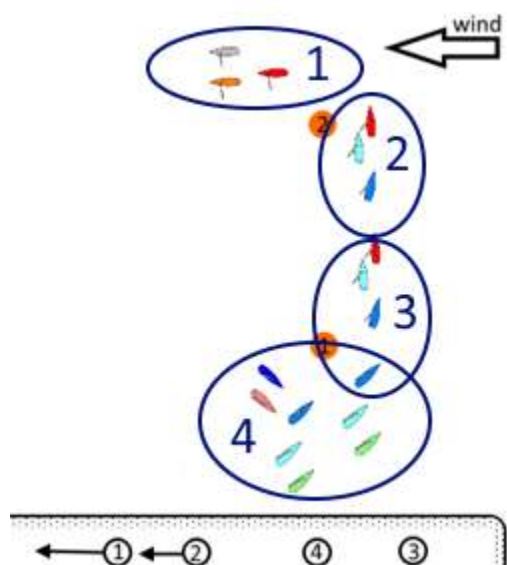
Umpire 1: first quarter of fleet

Umpire 2: second quarter of fleet

Umpire 3: third quarter of fleet

Umpire 4: last quarter of fleet

It is useful for umpires 1 and 2 to be positioned above the windward mark on the extension of the port tack lay line to observe the first boats round the mark. Umpires 3 and 4 remain below the windward mark, to observe boats tacking on to the lay line on the near side.



3.4 First run

As soon as the first group of boats has rounded the offset mark Umpire 1 leaves the windward mark to follow his group to the leeward gate. Umpires 2, 3 and 4 do likewise with their respective groups. Umpires 1 and 2 must leave the windward mark in good time to ensure that they arrive at the leeward gate with their boats

3.5 Leeward gate

Umpires 1 and 2 position themselves slightly to windward of the gate to observe overlaps at the zone and the mark rounding.

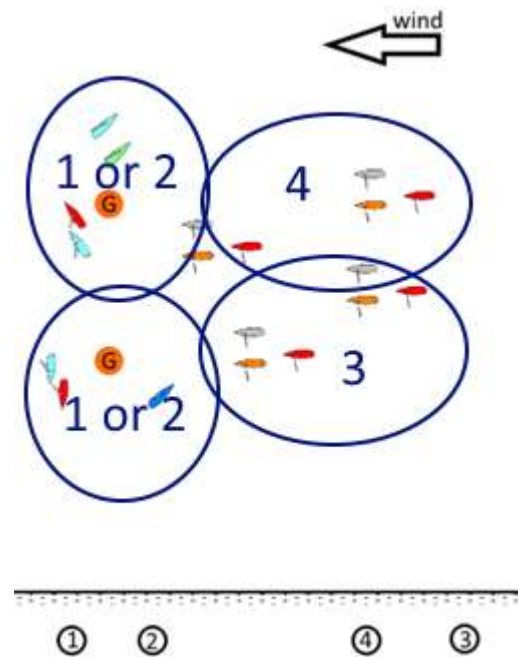
As umpire 1 approaches he must anticipate which mark the early boats will round. He will take charge of this mark. He signals this to Umpire 2 (hand signals) who acknowledges verbally

Umpire 1 takes one gate mark

Umpire 2 takes the other gate mark

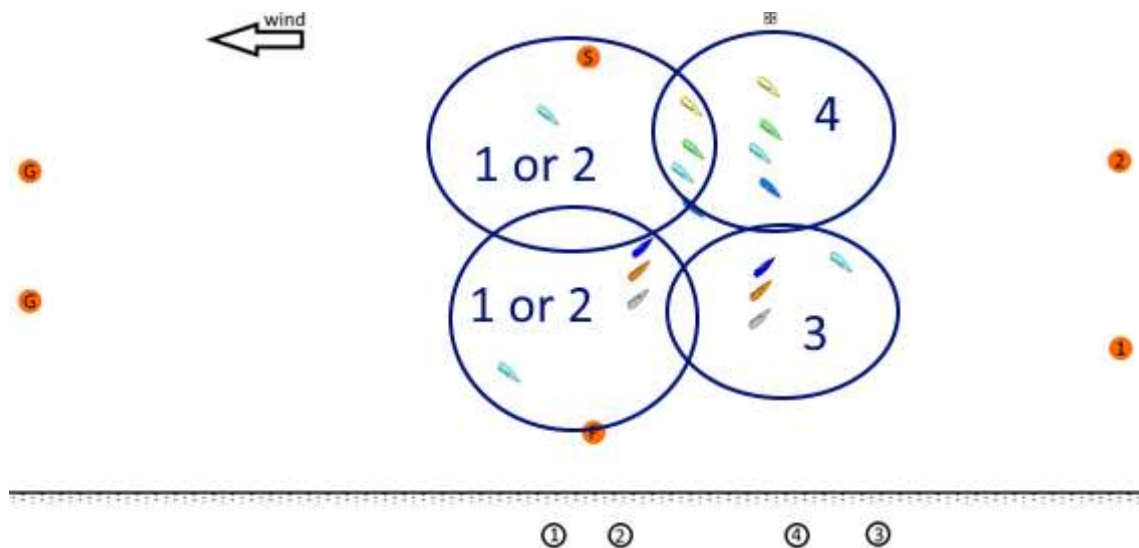
They remain in position until all boats have rounded the gate.

Umpires 3 and 4 follow their group of boats down the run and observe the leading boats as they cross the trailing boats. It is important that Umpires 3 and 4 get in to position to observe the leading boats soon after they have rounded the leeward gate.



3.6 Second beat

Umpires 3 and 4 deal with leading boats crossing the boats on the run. They then follow leading boats to windward mark. By convention, Umpire 3 remains on the near side of the fleet, as this was his sector on the first beat.

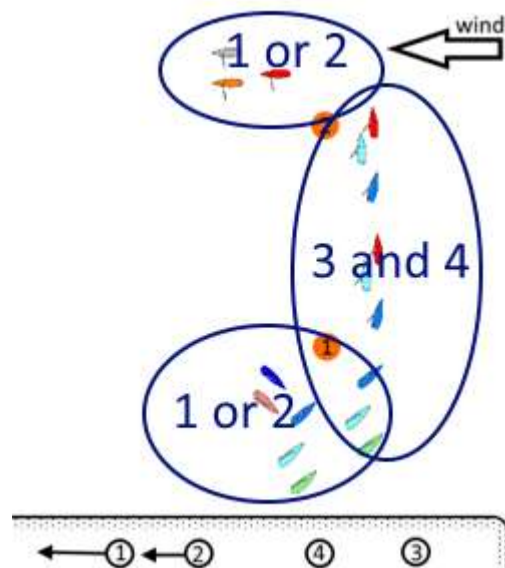


Umpires 1 and 2 follow rear half of fleet. The umpire that was on the near side gate mark observes the near side, the other umpire takes the far side.

3.7 Second windward mark

Umpires 3 and 4 follow all boats in to the windward mark and round the offset mark.

Umpires 1 and 2 follow the rear half of the fleet and then observe the leading boats run through the trailing boats.



3.8 Second run and second leeward gate.

Umpires 1 and 2 follow the leading boats down the run and observe the second passage of the gate using the same procedure as for the first rounding

Umpires 3 and 4 follow the rear half of the fleet and observe the leading boats as they leave the gate and pass through the trailing boats

3.9 Last beat

Umpires 3 and 4 observe the leading boats crossing the rest of the fleet and follow them to the finish line

Umpires 1 and 2 follow mark rounding and second half of fleet.