

# **ISAF RACE MANAGEMENT MANUAL**

## **SECTION U**

### **Race Management of Team Racing**

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## **U.1 Introduction**

### **U.1.1 Document Overview**

A successful Team Racing event requires many of the same race management procedures as a fleet race.

This Team Racing Race Management Manual therefore relies largely on the ISAF Race Management Manual. It is intended to be read in conjunction with that document, uses the same overall structure, and only includes content where there are specific distinct requirements for successful Team Racing.

### **U.1.2 An Overview of Team Racing**

Team racing is largely based on fleet racing, with some limited adaptation to maximise two teams racing in close quarters. Team racing uses the same Rules as for fleet racing, with some minor rule changes which are listed in Appendix D of the Racing Rules of Sailing (RRS).

A team racing competition normally consists of many short races (5 to 10 minutes in duration), each between different teams; many team racing competitions will plan on 100 or more races in a day. This drives many of the differences in race management.

There are a number of bases for team racing. Most commonly:

- Teams can consist of 2, 3 or 4 boats;
- Boats can be single or multi handed dinghies, or keel boats.

### **U.1.3 Top things to get right for a successful regatta**

Whilst there are many things to organise for an event, the key ones which underpin a successful event are:

1. An effective management team, with clear roles and good partnership working between the Regatta Chair or lead Organising Authority representative, the Principle Race Officer, the Chief Umpire and the Race Scheduler / Results Coordinator.
2. Crisp organisation, enabling racing to start on time and run continuously with minimal unforced down time.
3. The ability to adjust the course, and move the lines, without any delay to the racing.
4. A well planned basis of competition, with pre-planned contingencies in the event of loss of racing due to weather.
5. Minimal loss of time in teams changing between boats.
6. Reliable equipment, sufficient to withstand the extensive use it will get throughout the event.
7. Effective team spirit / partnership working between Race Committee, Umpires and competitors, fostered by joint social events.
8. Catering arrangements that fit around a full on the water programme, accessible during the day in wet sailing gear.

9. Effective communication to competitors and spectators so all are clear what is happening. Regular briefing meetings from the PRO and Chief Umpire to competitors are essential, but it's important to keep them short.

#### **U.1.4 Terms**

*Flight:* this term has two meanings:

1. A group of boats required for a single race. For instance, for 3 boat team racing, 1 flight consists of 6 boats, 2 teams of 3 boats.
2. A group of races, normally consisting of one race for all available boats.

*Format:* the format for an event sets out the intended race programme, ie the combination of Round Robin racing and knock out racing that will be run.

*Rotations or Schedules:* the detailed race order that sets out the teams that are sailing in each race and the boats they are sailing in.

*Round Robin:* in a round-robin series competitors are assigned to one or more groups and scheduled to sail against all other competitors in their group one or more times.

## **U.2 Authority and Responsibility**

The same organisation authorities apply for Team Racing as for Fleet Racing. However, a team racing event is typically a more dynamic event than a fleet racing event, given the large number of races. It therefore is particularly important to have a good partnership between the key event decision makers:

- The Event Chair or lead representative of the Organising Authority, whose role is to ensure the underlying objectives of the event are met;
- The Principle Race Officer, responsible for overseeing the effective progress of the sailing event;
- The Chief Umpire, responsible for ensuring fairness of racing;
- The Race Scheduler / Results Co-ordinator.

Given the large number of activities that need to be undertaken successfully for a successful event, it is essential that responsibilities are clearly allocated to an individual.

## **U.3 Committees and Key Personnel**

Whilst most structures are the same as for fleet racing, there are some roles with particular demands for a Team Racing event. These are set out below.

In smaller events, it may not be possible to have a dedicated team, in which case typically individuals will take several different responsibilities, depending on ability.

### **U.3.1 Race Office**

The race office is responsible for all the race program schedules (sometimes called rotations) and results. This is generally a very active function during a team racing event due to the large number of races run during a competition.

## **Entries and registration**

At events where boats are provided by the Organising Authority, a damage deposit will normally be taken from each of the teams (see Section 7.1 for more information).

## **Results and information**

At team racing events it is usual to appoint a Race Scheduler / Results Coordinator as a key member of the race management team. This coordinator is responsible for developing the format and producing schedules throughout the competition, and also has a key role in advising on any format adjustments required during the competition (see Section 6.1 for more information).

The logistics of results needs particular consideration at team racing events. Not only are there a large number of races, but it is usually necessary to process the results from one set of races before moving onto the next set, so to avoid delay this needs to happen as racing progresses. Ideally race results will be radioed to the Race Office at the conclusion of each race, so that the overall results can be updated rapidly, which allows race sheets to be brought ashore for formal records when convenient.

Results should be displayed to competitors as soon as possible, so they have an up to date view of progress through the event. Teams should be encouraged to check the results and raise any scoring queries with the Race Office as early as possible.

Open format protest forms and request for redress forms should be available from the Race Office, and logged using standard race management procedures (see Section 2.6.2 and Annex 2.6 for more information on requests for redress).

### **U.3.2 Race Committee**

#### **Course setter**

Course setting requires a slightly different approach in team racing to fleet racing. Courses are very short, with often more than one race in progress at any one time. As the aim is for continuous racing the course manager needs to be making minor mark adjustments on an on-going basis as necessary to keep the course optimal without delaying racing.

The course setter therefore needs to be very familiar with team racing course requirements, able to stay constantly on the water throughout racing and be actively mobile with his own motor boat.

#### **Beach master**

This role is essential to the efficient running of a team racing event. Most events require a large number of rotations of teams in and out of boats, and the beach master is responsible for ensuring that team changes happen in a timely fashion, and the correct teams swap in and out.

The beach master may also take on a role of ensuring that commonly required replacement kit is immediately available, eg shackles, tiller extensions, both at the change over dock and on umpire boats on the water.

Whilst normally the beach master will be based on shore, if changeovers are all happening on the water it may be preferable to base the beach master on the water.

### **U.3.3 Protests**

Team racing is a test of boat handling skills in close quarters. At top levels it involves teams sailing in very close proximity and pushing rule boundaries to gain advantage. This used to generate a large number of protests, and as a result, on the water umpiring evolved to ensure that, as far as possible, the result on the water is the final race result.

The use of on the water umpiring therefore results in a minimal number of protests. A subset of the umpire team will also form the protest committee if one is required.

On the basis that an appropriately qualified umpire team is in place, top level events will normally apply for the right to deny appeals, so that the result at the event is final. This should be included in the Sailing Instructions.

### **U.3.4 Umpires and Judges**

Umpires are a significant element to any Team Racing event, as umpiring is an integral part of racing.

Depending on the number of umpires available, an event may be observed or fully umpired.

- Observed races (Races with Limited Umpiring, section D2.3 (b) in the Racing Rules of Sailing) have relatively few umpires, who use best endeavours to cover incidents across the entire race. Competitors still retain the right to protest on the water incidents.
- Races with Full Umpiring may typically have 2 or 3 umpire boats, each with 1 or 2 umpires in them. At top events, for key matches, umpire boats will each have 2 umpires, and there should be the same number of umpire boats as boats in a team (ie 2 umpire boats for 2 boat team racing, 3 umpire boats for 3 boat team racing etc).

#### **Number of umpires**

Umpires are only needed to cover active races, so the number of umpires required is based on the number of races happening at any one time. For most competitions, it is appropriate to have two umpire boats per active race.

Typically, for racing on a single course, with 3 flights of boats you would expect 2 races at any one time and with 4 flights a maximum of 3 races at once.

Therefore at an event with 3 flights of racing boats, 4 umpire boats with 8 umpires would be appropriate, whereas if there are 4 flights of racing boats then 6 umpire boats with 12 umpires would be ideal. The impact of having fewer umpire boats than ideal is that either some races will be umpired by just one umpire boat, or alternatively fewer races will be held as some race starts will have to be delayed until umpires are available.

#### **Boat set up, gear failure and repair**

Measurement is typically not required in a team racing event, as it does not matter whether boats conform precisely to class rules. What is essential is that boats are set up on a standard basis, so that they are as equal as possible and the competition is fair. This is frequently part of the bosun's responsibilities.

When competitors are not permitted to alter settings, it is important to have appropriate settings checked as boats are launched at the start of each day's racing.

Where boats are provided by the Organising Authority, a bosun with supporting boat repair crew is essential to undertake fast maintenance of any breakages.

### **Damage Officer**

The bosun may also be the Damage Officer, and if not, a Damage Officer should be appointed. The Damage Officer is responsible for assessing the cost of any damage and apportioning it to the team responsible. If there is any doubt, umpires may be called on to offer an opinion based on what they saw on the water, and it is possible to go to a formal hearing if necessary.

### **Redress claims for breakdowns**

It is not uncommon to receive claims for redress from teams, particularly at events where boats have been provided by the Organising Authority and suffer breakage. Appendix D5 refers.

It is suggested that the grounds for consider redress requests should be published in advance and strictly adhered to, in order to discourage spurious requests. An example for dinghy racing is included in Annex 2.6.

## **U.4 Facilities**

### **U.4.1 Boats**

#### **Competitor team racing boats**

The Organising Authority will be responsible for providing boats for most team racing events. The boats to be provided will depend on a number of factors, in particular what fleets can be made available by the host club, or if sponsorship is available.

The number of boats required will depend on the number of teams at the event. The ideal ratio enables teams to be on the water around 50% of the time, so for example if there are four teams, then one set of boats would be ideal (to enable two teams to race at any one stage). So an 8 team event would have 2 sets of boats, enabling 2 races / 4 teams to be on the water at any one time, etc.

It is still satisfactory if teams are racing between one third and half the time, so eg 2 sets of boats could be used for a competition involving between 8 and 12 teams.

Boat damage is a particular risk in team racing, either from contact with other boats due to the close racing, or from pontoons when teams change boats. Good practice is to put fenders on supplied boats, particularly on bows. Ideally one or more spare boats should be available in case of breakdown to minimise any down time in racing.

The Notice of Race should state what equipment competitors are able (or must) provide. Typically this would include some or all of bailers, protest flags, corrector weights, etc.

#### **Boat identification**

Clear boat identification is needed for several different groups:

- Competitors need to be clear which boats to get into, and to be able easily to distinguish their team when racing;
- Umpires following behind boats need to be clear which boat and team;

- Start and finish boats need to be able to see which boat and team;
- It should be obvious to spectators which team is which.

A combination of identifiers may be needed eg:

- Boat numbers on either side of the bow and repeated on the transom;
- The same number on the mainsail;
- Flights with colour coded sails, especially the jibs;
- If more than one flight has the same numbers then coloured tape / ribbon attached to the shrouds works well to distinguish them.

### **Competitor change over**

Enabling teams to change rapidly between races is a key element to fast progression through races. Another factor to consider is the need to minimise the risk of damage. Precise arrangements will depend on the logistics of the venue, the boats used for team racing, wind conditions etc, options include:

- A convenient pontoon, well protected to minimise boat damage;
- A floating dock, moored near the race areas;
- Ferrying teams to and from the race area, using a rib, and using the rib for the changeover. This is often the most effective providing sufficient ribs are available.

In order to minimise the risk of delay or boat damage at change over, it is best practice where possible to change only one team at the finish of a race, ie once afloat and in their boats, teams do two races before changing.

## **U.4.2 Further Shore Facilities**

### **Fuel**

Team racing tends to generate significant use of support boats, for ferrying competitors for change over, mark moving, and particularly for umpires who are in constant motion following races. Contingency arrangements for additional fuel during racing should be considered in addition to ensuring all boats are full of fuel at the start of racing.

### **Use of club house**

The pattern of team racing during an event is generally quite different to fleet racing. In most events, teams will be on and off the water throughout the day, with at least half the time spent on shore waiting in sailing gear.

Adequate provision is therefore needed for access to shelter and food in wet sailing gear throughout the racing day.

### **Food**

In general, team racing will operate continuously during a day, with no formal rest breaks. Food needs to be provided on the go for all officials and competitors.

Team racing is very demanding on the race management team and umpires. Whilst at some events those on the water will be able to step ashore for a break, in many events they will be involved in continuous racing all day throughout the competition.



It is therefore important to ensure they have adequate food and drink available; for instance, tea and coffee available on arrival and at morning, afternoon and lunch breaks; also, if racing needs to happen late, sending out some food later in the day as well as at lunch time will be appreciated.

Competitors will want food readily available throughout the day, accessible in any short breaks they have between races.

### **U.4.3 Repair facilities**

Team racing results in boats being involved in close, hard racing over several days. It is therefore not unusual particularly in strong winds to see gear failure. Even where a spare boat is available, it is important to have staff and facilities on hand to enable rapid repair of any damage. The most common failures are toe straps and tiller extensions. It is therefore useful to have all tiller extensions with quick release attachments and a supply on the water in umpire and course boats.

Time spent in advance to set boats up as robustly as possible to prevent damage during the event can be a good investment. For example:

- Check all halyards have knot stoppers;
- Check all shackled fittings are tight - use pliers.
- Tape all shroud pins and any sharp items;
- Check toe strap mountings and that toe straps are tied securely with good quality (4 or 5mm) line;
- Check all fittings in the boat for attachment and serviceability.

Having a check list for each boat makes things easier and ensures a standard approach for each boat.

## **U.5 Vessels and Equipment**

### **U.5.1 Course setting boat**

The course setting boat required for team racing is different to that for fleet racing. Distances are relatively short, course changes are constant small adjustments while racing continues, so the boat must be reasonably fast, easily manoeuvrable with limited wash, and be suitable for frequent lifting or dragging of marks.

### **U.5.2 Umpires**

There are a number of requirements for the ideal umpire boats:

- Umpires need to get very close to racing boats to see what is happening, so the umpire boats need to be easy to manoeuvre going forwards and in reverse, and create as little wake as possible;
- Umpires will be in the boats all day, so they should be reasonably comfortable eg steering wheel;
- There need to be adequate numbers of umpire boats, as there will be at most 2 umpires per boat.

### **U.5.3 Marks**

Marks only need to be visible over a relatively short distance so small pole marks with flags are perfectly satisfactory. Marks should also be easy to move, ideally able to be dragged rather than requiring lifting, so that the course can be adjusted constantly during racing to minimise down time. Note that team racing sailing instructions frequently permit contact with flags providing there is no contact with the mark or pole.

An alternative eg where depth of anchoring is problematic, is to lay several marks and be able to direct teams to the appropriate mark. This could be through having the ability to put flags on top of a post on the mark, so the course manager can just move flags to change marks. Another approach is to lay several different colour marks and for the race committee boat to indicate which is correct for that race.

## **U.6 Race Documents**

There are some important elements to include in the Notice of Race and Sailing Instructions (SIs) for team racing. Example SIs for team racing can be found at: [www.teamracing.org](http://www.teamracing.org).

As well as the event structure, the Notice of Race needs to set out whether boats will be provided by the Organising Authority or the competitors; as well as anything else competitors need to know in advance eg do they need to bring protest flags, bailers, damage deposit requirements etc.

The Sailing Instructions should include changes to provide the Race Committee with more flexibility than in normal fleet racing. For instance, it is usual to:

- Reserve the right to amend the intended format of competition in order to optimise racing;
- Provide the option of moving marks at any time other than when a fleet is actively rounding them;
- Not to require boats to be off their moorings at the preparatory signal.

## **U.7 Competition Formats and Selection of Race Area**

### **U.7.1 Formats**

This section provides a high level introduction to the typical formats of a team racing event, and sets out some differences to fleet racing objectives. More detail on format options is provided in Annex 6.1.

At its simplest, team racing consists of two teams, each consisting of several boats, which compete in a race against each other. Special rules (see *RRS D*) apply. The winning team is the one with lower total points, where the points for each team are the total sum of the results of each team member boat. If the teams are tied on points, the team without first place wins.

The most rapid team racing competition is a straight knock out, where the losing team stops sailing, and the winning team continues in the competition to sail other winning teams. The knock out format is normally only used in the final stages of a competition. If used from the start it would result in very limited racing for losing teams.

Instead team racing events tend to start with one or more Round Robins. In general:

- The first rounds are either all teams sailing all other teams, or with teams divided into groups of broadly comparable standard.
- Later rounds filter teams based on previous results to create performance based groups, thus providing sailing against teams of similar standard.

The format for an event sets out the combination of Round Robin and knock out racing that will be run.

There is always a tension between running a very extensive race programme that maximises the sailing for competitors and ensuring that the final races complete so that a good result is obtained from the event. The race team should plan in advance a programme based on the maximum racing that could take place, with a series of contingency plans that allow the programme to be adjusted should racing not be possible for some of the time.

The annex sets out some more detailed considerations to help in constructing or reviewing a format.

### **Schedules**

In most team racing events, there are a large number of races with teams changing in and out of different sets of boats. It is therefore important for the effective running of a competition that clear schedules are made available to teams and officials in advance of racing. It can be helpful to provide a supply of plastic wallets or laminated copies. An example schedule is shown in Annex 6.1.1.

For most efficient sailing, the schedule will be customised to the precise conditions, allowing for the numbers of teams, the format of racing, the fairness of boats, the ease of change over etc.

### **Rescheduling re-sailed or postponed races**

It is not uncommon in team racing to have boat breakdowns that cause delay. If the delay is significant, normal practice is to postpone that race and carry on with the schedule. There may also be a need to re-sail races, following claims for redress (eg major equipment failure through no fault of the crew – see section 2.6).

It is usually best to re-schedule races to the end of the round, or as either the last races of the day or the first races of the next day. It should be clear who is responsible for deciding on such schedule changes – normally the Race Office managing results and future schedules is best placed to advise the Race Officer. Clear communication to competitors and officials is then necessary to avoid confusion.

## **U.7.2 Selection of Race Area**

The selection of a race area needs to consider a number of factors.

- Team racing can be a good spectator sport. The ideal location for a course is close to a place or facility where any spectators will have a close viewing opportunity.
- Competitors need to change in and out of boats frequently, so the course should be near a dock or pontoon. If a course cannot be arranged so that there are close changing arrangements on land, then consider arranging for a floating change platform, or providing a rib to transport changing teams to and from the race area. If doing on the water changing, consider positioning the change boat near the

finish to maximise the time swapping-in competitors have for familiarising themselves with the boat.

- Competitors will need access to facilities and refreshments during the racing. If racing cannot be in close proximity to the club house then alternative arrangements will be required.
- While only a small area is needed for a course, the area does need to be large enough to be able to set the course in any wind direction.
- There should be minimal tide or current across the course.

## U.8 Start of the Regatta

There are two additional elements to consider at the start of a team racing event.

### U.8.1 Competitor registration including damage deposit

Registration will usually include damage deposit where using borrowed boats. Some damage should be anticipated given the large numbers of close races in varying conditions. Charging for damage not only covers the cost of damage, essential for borrowed boats, but as importantly provides an incentive for teams to minimise damage. Generally this works well and very little if any money needs to be charged.

A Damage Officer is appointed to oversee the assessment of damage and allocation of costs to teams (see Section 2.6).

### U.8.2 Umpire meetings

Given the importance of rule interpretations and the active role umpires play throughout an event, umpire meetings have more significance than in a fleet race.

An umpire team will generally want to have a meeting beforehand to review and ensure they are all aligned on the procedures they will use during the event, any rule interpretations, etc.

Significant interaction between the umpires and competitors is also likely. Competitors will frequently wish to raise questions or seek clarification on the interpretation of rules, and umpires will normally wish to provide the opportunity to do this both in writing and at briefing meetings.

Briefings should be interactive. The use of magnetic boats on a magnetic white board to demonstrate moves is recommended to make the briefings to make it easier to demonstrate specific rules or replay incidents.

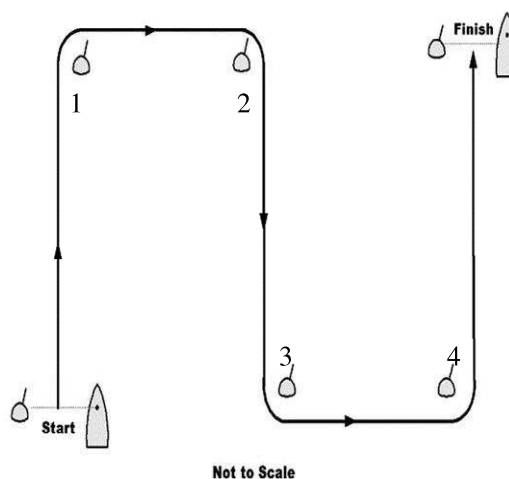
## U.9 Setting the Course

### U.9.1 Course geometry

#### 'S' course

The 'S' course is the most frequently used for team racing as it allows 2 or 3 races to be taking place simultaneously. The diagram below shows a starboard hand 'S' course.

There may be more than one race on the course



at any one time, so where possible the course should be laid so as to minimise the possibility of interference between races. For example, when laying an “S” course, care needs to be taken when positioning mark 3. If it is likely to be near the start boat it is better to have it upwind so as to minimise interference from other boats starting.

A starboard hand S is normally used as this provides the opportunity for interesting tactics at the first starboard mark.

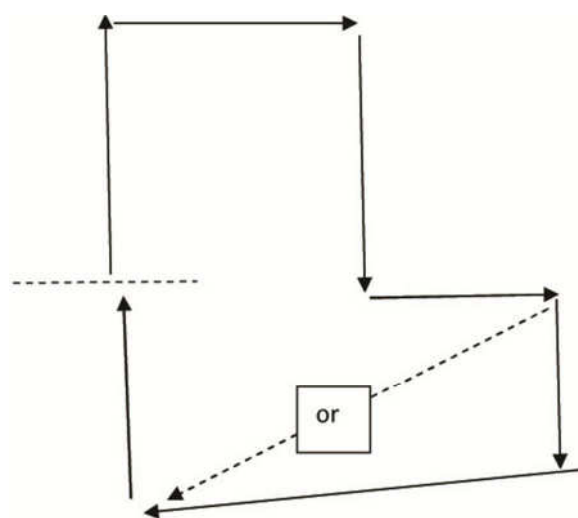
A port hand ‘S’ is the mirror image with the marks left port-port-starboard-starboard- finish, but with start and finish boats at the starboard end of their respective lines. This may be appropriate if a starboard hand S is not suitable, and has the advantage that starboard rounding of marks 3 and 4 offers more interesting opportunities for place changing towards the end of the race and requires significant changes in tactics and rule awareness.

### Other course options

If the finish line does not need to be separate, a starboard box course has the advantage of providing interest across the whole race. If this course is used and there is only one committee boat, consider using different sides of the boat for start and finish lines.

A further variation is to combine the start of a square with the end of an S. This is akin to a ‘W’. Whilst it can be more complex to manage, it provides opportunity for place changing throughout the entire race, which makes it very attractive for team racing.

An ‘L’ course can also be used (see on the right).



## U.9.2 Location of Race Area

The general principles for selection of the race area are covered in Section 6.2.

At most locations, there will be a designated area for the racing. Once racing has started, the intention will be to keep going all day with continuous small adjustments, so the initial course should be set with space around to allow for the flexibility to move marks should wind shifts occur.

The specific location constraints may also influence whether port or starboard hand courses are necessary.

## U.9.3 Length of starting line

The line should be relatively short, about six boat lengths long. However, when racing is for less experienced sailors a longer line may be preferable.

## **U.9.4 Course**

The most significant difference to fleet racing is average length of race: this will depend on the boats and conditions, but in most cases ideally races will take around 7 to 8 minutes to complete. Less than 6 or more than 9 and the course should be adjusted. The first beat should ideally take around 2 minutes.

Whilst all the legs should be as true as possible, this is particularly important for the beats.

One consideration when setting up the course initially is the expected movement of wind during the day.

- When using a starboard hand course, if the wind changes anti-clockwise, it is easy to adjust the course (reaches get longer).
- Conversely if the wind moves clockwise, then the course tightens quickly and it may be necessary to move the start or finish.
- Significant disruption to racing can be avoided if the course is laid with capacity to adjust to expected wind changes.

## **U.9.5 Adjusting a course for wind changes**

The need to keep the course close to ideal, in both length of race and setting in relation to the wind, coupled with the large number of races, makes rapid and frequent movement of marks essential for smooth running of a team racing event. The course is also very small so marks are easily visible. Mark movement is therefore more informal than in fleet racing.

### **Adjustment procedure**

In team racing, marks can be moved at any time provided there are no boats heading immediately towards the buoy, so racing does not have to be stopped. The course setter usually moves in quickly, drags the mark to the new position and gets out of the way. There is no requirement to show any flags or make any sound signals (which must be reflected in a Sailing Instruction stating that RRS 33 does not apply).

If larger adjustments are needed, the course setter can request a break in racing.

When conditions are especially shifty the course setter may lay a number of optional windward marks and indicate just before the start which mark is to be used (eg by the course setter placing a flag on the best positioned mark just before the start of the race, or the start boat can display a signal if marks are different colours).

## **U.10 Starting Procedures**

Use a compressed start sequence to minimise any lost time between races. In most events the start sequence will be signals at 3, 2 and 1 minutes.

Many race officers use a 'rolling watch', which keeps running throughout the day, with any signal being made at the start of any full minute (ie '00').. This is welcomed by competitors as they never have to re-set their watches during the day.

Electronic countdown systems are also used. These are totally audio signaling systems, largely removing the need for sailors to have watches. Typically there will be audio signals at 3, 2 and 1 minutes, then 30 seconds, 20, 10, 5,4,3,2,1, Go. Timing is taken from first sound. Flags would only be used for indicating which flights are sailing.

As races are very short, the OCS procedure needs to be very prompt and clearly audible. A good practice is to start by calling the number of boats over the line, and then the specific boat numbers. Some form of amplification (a loud hailer or speaker system) is recommended to ensure calls can be heard at the far end of the line.

General recalls should be avoided – it is preferable to call all boats over.

Team racing works best when starts are evenly spaced and continuous throughout the day. This spreads the races out as far as possible and maximises the use of umpires (thus minimising the number required). So for example, if the target is 12 races per hour, the start boat should be aiming for a start every 5 minutes.

If starts are being scheduled 3 minutes apart, the start signal for one race should be the 3 minute signal for the next race.

The start boat should display the race number of the race about to start, normally through writing on a board or using a set of numbers.

## **U.10.1 Starting problems and solutions**

### **Starting line**

As there are relatively few boats, and the line is short (see Section 8.4) a completely fair line is generally less critical for team racing than fleet racing. However, severely port biased lines have the effect of shortening the line, so should be avoided.

Boats should not be able to lay the first mark from either end of the start line. Given the short beat, it is important to watch for shifts that could have this result, and if necessary the race officer should abort the start.

### **Delays**

It is important for the efficient running of the event that racing does not wait for teams who are late through their own action. If this is established early in the event then teams will be punctual rather than miss races, and so delays in racing avoided.

There is no need to wait for the course to be fully set before commencing the start sequence. This includes the starting mark which can be moved up to the 1 minute signal.

At most events one of the main controlling factors in the ability to start races will be the availability of the umpires. Provided the umpires are in place or on their way by the 2 minute preparatory signal that is all that is required.

It is important to establish a good working relationship between the start boat and the umpires, to avoid each waiting for the other. The start boat should expect to be ‘pulling’ umpires away from their previous race as it finishes, if the 3 minute signal is made it gives them up to 2 minutes to get back to the start.

Occasionally the umpires will need to switch boats, or will need to take some time to talk to the competitors about a call made during the race (although this should normally be done on shore after racing to avoid delay). If necessary, they should radio through to the PRO and ask for a slight delay in racing.

## **U.11 During the Race**

### **U.11.1 Fleet surveillance**

Fleet surveillance during racing is not a significant requirement for the race management team in team racing as:

- Races are much shorter so there is less opportunity for issues to emerge;
- The course setter should make small mark adjustments without reference;
- Umpires with fleets tend to raise awareness of any problems.

#### **Abandoning a race**

Any decisions on abandoning a race should be made by the Race Officer. They should normally be made in consultation with the umpires on that race, who will have a perspective on fairness and very local wind conditions. This will assist in making an informed judgment:

- If a race has been satisfactory up to the point where the wind dies, and teams have earned their positions, and those positions are likely to be maintained to the finish, it is normally fairer to continue racing;
- If however the positions of the teams has been impacted by the poor conditions it may be more appropriate to abandon the race in progress.

Given the above points, it is not uncommon in team racing to abandon some rather than all races actively underway. The normal process of abandoning a race would not be appropriate in these circumstances as there is no standard signalling to identify individual races once underway. It is therefore usual in team racing to communicate abandonment to the competitors in the race(s) impacted orally through the umpires (coordinated by the Chief Umpire, on request from the Race Committee).

### **U.11.2 Course changes**

As described in section 8, team racing ideally has an effective course setter who constantly makes small adjustments, so it should only be necessary to pause racing to re-set the course if there is a major wind shift.

If this happens, it is useful to ensure the umpires are advised so they are aware what is happening, as well as taking advantage of the opportunity for a short break.

#### **Management of target length course**

As discussed in Section 8.6 the course setter will normally work to an average target length of course of 7 to 8 minutes. The race scheduler should actively monitor progress through the intended schedule during racing and advise the PRO if it seems appropriate to adjust the target length for a period to ensure timely completion of a phase of the race programme. The PRO can then make a decision regarding course length adjustments taking account of what is happening on the water.

For instance, it may become apparent with 4 hours of sailing left that in order to complete a round of the competition the pace of racing needs to increase. Reducing the course length from 8 minutes to closer to 6 minutes would enable an extra race per flight per hour, so eg if there are 3 flights this would result in completion of an extra 12 races. (Note the time between starts would also need to be adjusted).



## **U.12 Finishing**

Whilst this is largely similar to fleet racing, there are two particular challenges to be expected.

- Racing is typically very close over a short course. Finishes can therefore be extremely close, with several boats crossing the line at almost the same time. As boats can be travelling at quite different speeds (team racing tactics see boats sailing as slow as possible at times), good line judgement is essential.
- There are often incidents at the finish, that result in boats finishing then crossing back to take a penalty turn and then re-finish. The standard procedure is to write down the number each time a boat crosses the finish line then confirm the actual finish positions with umpires.

The colour and number of each finishing boat should be recorded, and as above the order in which boats cross the line should be written down and any multiple crossings checked with umpires to confirm the place to be awarded.

## **U.13 Things to do at the End of Each Racing Day**

It is usual for a competitor de-brief to be held. Whilst the focus of this is frequently the on the water decisions by umpires and rule interpretations, it is good practice for representatives of the race management team to attend to brief teams on plans for the next day's racing and answer any questions teams may wish to raise.

The race programme for the next day should also be announced, in particular which teams will be race first as they will normally need to rig and launch the boats in the morning.

## **U.14 Things to do at the End of the Regatta**

The only specific consideration for team racing is the loading up of boats and sails if provided by the Organising Authority. This is a major undertaking for a large event, and it should be made clear in the Sailing Instructions that competitors must assist in loading to ensure that most is completed prior to the prize giving.

## **U.15 Post Regatta Tasks**

The only significant difference for team racing compared to fleet racing after the event is where boats have been provided by the Organising Authority.

After several days of heavy racing, boats will need to be inspected for damage and any necessary repairs or maintenance undertaken. Depending on the source of the boats used, arrangements may also need to be made for them to be returned.

Following boat assessment, damage costs can be finalised and collected from damage deposits, and any balance returned to competitors.

## **U.16 Annex 2.6**

### **EXAMPLE OF DINGHY TEAM RACING RE-SAIL GUIDELINES**

*These are not rules or sailing instructions. They are only guidelines and individual cases may have extenuating circumstances requiring a different interpretation. Also there may be differences at individual events; the briefing events for each event should note changes.*

Re-sails will generally NOT be granted in the following circumstances:

- Failure to display a red flag when becoming aware of the facts in of the breakdown;
- Failure to apply for a re-sail within protest time;
- Knots becoming untied below half-way up the mast;
- Equipment such as shackles becoming loose or undone below half-way up the mast;
- Less than approximately 5 litres of water in a buoyancy tank;
- Where boats have not tried to continue racing;
- Where the breakdown was the fault of the crew;
- Where a reasonably competent crew would have been able to avoid the breakdown;
- A breakdown caused by careless handling, capsizing or a breach by a boat in the same team;
- Rudders lifting through lack of securing down devices, pins or rope;
- Tiller extensions parting from tiller, unless the fitting is faulty and there has been an unsuccessful attempt by the crew to re-assemble it.

Re-sails generally WILL be granted in the following circumstances:

- Knots becoming untied above half-way up the mast if not the fault of the crew;
- Equipment such as shackles becoming loose or undone above half-way the mast if not the fault of the crew;
- Broken toe straps in hiking out conditions but NOT those coming undone;
- More than approximately 5 litres of water in a buoyancy tank;
- Breakdowns caused by a breach of rule by an opponent;
- Wear and tear (such as a wooden rubbing strake becoming loose) which results in the boat becoming dangerous to either its occupants or other sailors.

## **U.17 Annex 6.1**

### **Developing An Event Format**

The objectives of a team racing event are:

- To provide competitive sailing to all the competitors for as long as possible;
- To produce a winner;
- To produce a rank order.

As described in the Section 6.1, team racing competitions normally start with Round Robin racing to maximise the amount of sailing. Many then finish with a knock out stage competition to select the final winner.

As most competitions use this approach, the remainder of this annex sets out the considerations used when developing this type of format.

### **Other Format Options**

There are other possible formats for team racing competitions. Two of the most common are summarised below.

## Swiss league

The *Swiss League* system is similar to a squash ladder, where two winning teams from one round sail against each other in the next round, with similarly two losing teams from that round sailing against each other. Running this type of competition successfully requires significant levels of experience and sophisticated computing, as results and schedules for the next round need to be calculated in real time.

A Swiss league competition can provide excellent racing between teams of comparable performance, and is an excellent tool for seeding. However it is generally too complex for most events.

## Random pairs

Whilst normally competitions are team based, it is also possible to do team racing where competitors enter individually, but are then paired with different team mates at random during the event. Each member of the winning team will score a race win, competitors are then mixed up so that the next round teams are different pairings. Again, each team member scores the same points as the team. At the end of the competition, the winner is the competitor with most race wins – in other words, they have been in more winning teams than any other competitor.

This basis of competition is particularly useful for classes or clubs, or where sailing standards are mixed, where the objective is to get sailors meeting each other and having some fun racing.

## Developing an event format

*How many races?*

The starting point for developing a format is to assess the maximum number of races that are anticipated during the event.

If a race is c 8 minutes and change over between teams is quick, it is reasonable to assume 4 races an hour for each flight (ie set of boats for a single race). This is the equivalent of each fleet being able to complete a whole cycle of pre-start – race – change over – back ready to pre-start in 15 minutes.

The maximum number of races is then the total number of flights (sets of boats) multiplied by 4 multiplied by the anticipated hours of racing. This should be used as the basis for setting the overall plan for the competition.

Example:

Assume a 16 team event, with 4 sets of boats (the ‘ideal’ ratio so competitors can sail half the time).

- Racing from 10 am until 6 pm, over 3 days.
- Last half day reserved for semi finals and finals.
- Races per hour = 4 (flights) x 4 (races per flight) = 16
- Maximum Round Robin races = (8 + 8 + 3) hours of racing x 16 = 304 races

So the ‘ideal’ format of Round Robin racing would have around 300 races in it.

It is highly unlikely that racing can run at this maximum rate over all days, as there is inevitable down time for gear failure, wind changes etc. It is therefore important to develop contingencies in the format, so that there is clear plan for any eventuality.

So in this example, the format should include:

- 1 A maximum race plan for around 300 races;
- 2 'What if' race plans that allow for losing time at various stages during the overall event.

#### *Which Round Robins?*

The number of races for a Round Robin of n teams can be calculated using the formula:  
 $n * (n-1) / 2$ .

The aim for a set of Round Robins is to offer teams the same number of races. So Round Robins are usually chosen that divide the fleet evenly, for instance:

- For a 16 team event, one Round Robin of 16 teams, or 2 Round Robins of 8 teams;
- For a 15 team event, one Round Robin of 15 teams, or 1 Round Robin of 7 and 1 Round Robin of 8 teams, or 3 Round Robins of 5.

The choice of Round Robin format is then a balance between various factors including:

- Fair sailing eg providing every team with a chance of winning;
- Random allocation of teams vs moving to seeded groups to provide more peer based racing opportunities;
- Confidence in finishing the competition.

#### *When is an 'all sail all' full Round Robin appropriate?*

It is common to start an event with an 'all sail all' Round Robin. This provides an opportunity for all teams to race each other, establishes an overall first placed team at the start of the competition (so there is a winner should no further rounds be completed), and establishes a seeding order that can be used to divide teams in future rounds.

The downside of an 'all sail all' Round Robin for large events is that they take a lot of race time, and if the standard of team racing is very variable between teams the racing may be disappointing.

If planning an 'all sail all' Round Robin, it is therefore advisable to start by dividing teams into two roughly even groups and sailing them as two mini-Round Robins as one phase, before sailing the remaining races in the major Round Robin as a second phase. This approach provides a contingency option of dropping the completion of the major Round Robin if event conditions are not favourable.

#### *Other Round Robin options:*

The first Round Robin round of a competition generally has teams of mixed standard, either on an 'all sail all' Round Robin, or by pre-seeding teams into roughly even groups. The results of this first round then establish a seeding for the particular event.

Subsequent rounds usually split teams into two or more Round Robins based on sailing performance in the event to date (eg a gold Round Robin for the top teams, and a silver Round Robin for the lower performing teams).

Multiple rounds may be sailed. If this happens, there are a number of options to consider:

- Results may be carried forward between rounds providing that the same teams remain;
- If results carry forward, it is possible to award more points for a race win in later rounds (eg 1 point for a race win in round 1, 1.5 points for a race win in round 2, etc).

Another option is to consider promoting the top team(s) from lower Round Robins and relegating the bottom team(s) from top Round Robins.

If the end of the event will move into a knock out competition (semis / finals, possibly quarter finals), then consider either the top placed silver team having one of the quarter final places, or sailing a repechage where the top of silver sails against the middle placed gold teams to decide who goes into the semi / quarter finals. This opportunity for the first placed in silver to reach the finals maximises the number of teams with the potential to win in the later stages of the competition, and keeps the competition alive for them.

When considering options, there is a need to balance:

- Providing teams with credit for good performance early in the competition;
- Ensuring the sailing remains interesting with the potential for as many teams as possible to have a chance of winning as late as possible in the competition.

### **Example: 16 team, 3 day format**

Going back to the example above, this was a competition for 16 teams over 3 days, with a maximum of around 300 races for the Round Robin stage.

An 'all sail all' 16 team Round Robin would take 120 races;

- Two Round Robins of 8 teams would take 56 races;
- Four Round Robins of 4 teams would take 24 races.

A possible format would be:

- Start with an 'all sail all' 16 team Round Robin (120 races). This should be sailed starting with two approximately balanced 8 team Round Robins (56 races), then completing the rest of the races (a further 64 races);
- Move to 3 rounds of gold / silver 8 team Round Robins, with 2 teams promoted from silver / relegated from gold at the end of each round (168 races);

The total is a maximum of 288 races.

Contingencies would be:

- Replace the third round of gold / silver with 4 x 4 Round Robins;
- Replace the third round of gold /silver with gold (5 teams), silver (6 teams) and bronze (5 teams);
- Do not sail the last round of gold / silver;
- Sail only one round of gold / silver;
- Curtail the 'all sail all' 16 team Round Robin after completing the two 8 team mini Round Robins, and move straight to a gold / silver Round Robin round.

## U.18 Annex 6.1.1

### EXAMPLE SCHEDULE

Below is an example schedule, used in the World Team Racing Championship in 2007.

Note that only one team changes after most races.

Flight 1		Race Number	Flight 2		Race Number	Flight 3	
Yellow 1, 2, 3	Blue 4, 5, 6		Green 7, 8, 9	Red 10, 11, 12		Black 13, 14, 15	White 16, 17, 18
AUS 1 v	ESP 3	1			1		
		2	IRL1 v	AUS 3	2		
		3			3	USA 2 v	IRL2
AUS 1 v	GBR 2	4			4		
		5	IRL1 v	ITA 1	5		
		6			6	USA 2 v	NZL 1
ESP 2 v	GBR 2	7			7		
		8	GBR 3 v	ITA 1	8		
		9			9	IRL3 v	NZL 1
ESP 2 v	USA 1	10			10		
		11	GBR 3 v	ESP 3	11		
		12			12	IRL3 v	JPN 1
IRL1 v	USA 1	13			13		
		14	AUS 3 v	ESP 3	14		
		15			15	AUS 2 v	JPN 1
IRL1 v	AUS 1	16			16		
		17	AUS 3 v	ITA 1	17		
		18			18	AUS 2 v	ESP 1
GBR 3 v	AUS 1	19			19		
		20	GBR 2 v	ITA 1	20		
		21	<b>Both Teams Change</b>		21	GBR 1 v	ESP 1
GBR 3 v	ESP 2	22			22	<b>Both Teams Change</b>	
		23	JPN 1 v	NZL 1	23		
		24			24	USA 2 v	AUS 2
ESP 3 v	ESP 2	25			25		
		26	JPN 1 v	IRL2	26		
		27			27	USA 2 v	IRL3
ESP 3 v	USA 1	28			28		
		29	GBR 1 v	IRL2	29		
		30			30	ESP 1 v	IRL3
AUS 3 v	USA 1	31			31		
		32	GBR 1 v	NZL 1	32		
		33			33	ESP 1 v	USA 2
AUS 3 v	GBR 2	34			34		
		35	AUS 2 v	NZL 1	35		
		36			36	JPN 1 v	USA 2