RACE MANAGEMENT GUIDE

2021-2024

RYA RACE MANAGEMENT GUIDE

2021 - 2024

EDITION 1, DECEMBER 2020

RACE MANAGEMENT GUIDE

Under the umbrella of its Racing Charter, the RYA provides guidance on running racing under the Racing Rules of Sailing. The guidance offered is the opinion of experts and is not a binding interpretation of the rules, nor will it be appropriate for all racing.

1. RACE MANAGEMENT GUIDE

This publication, which highlights best practice and acts as an aide memoir for race officers and those involved in race management. In addition various resources such as speed charts and course diagrams are available for download and use by those preparing notices of race and sailing instructions.

These are available as downloads from the RYA website at https://www.rya.org.uk/go/raceofficialsguidance

2. ADVISORY SERVICES

The RYA also provides advisory services. The RYA Race Management Committee provides advice on race management issues, including the writing of Notices of Race and Sailing Instructions. The RYA Racing Rules Committee provides an advisory service to help RYA members and affiliated organisations with their interpretation of the racing rules. This is intended to offer prompt informal advice without the delays inherent in a formal appeal.

3. RYA RACING RULES GUIDANCE

The RYA Racing Rules Guidance booklet which contains three categories of guidance:

- General Guidance
- RYA Rules Disputes Procedures
- Guidance Primarily for Race Officials

The guidance is available as a download from the RYA website; from the World Sailing app; or from the RYA books app. The guidances will be updated as required, but at least annually in December. Those viewing through the apps can be sure of always viewing the latest version.

4 MISCONDUCT

Further to the above, outline guidance on the application of racing rules 2 and 69, together with possible actions, is available in the yellow pages at the back of the RYA edition of the Racing Rules of Sailing 2021-2024.

In addition, World Sailing has produced a booklet, 'Misconduct Guidance', which is available at www.sailing.org/racingrules/documents.

5 RYA CASE BOOK

The RYA Case Book contains illustrative and persuasive, but not binding, interpretations and explanations of the rules. The case book is available as a download from the RYA website; as part of the integrated e-book on the World Sailing app; or from the RYA books app.

The RYA Racing Charter and its application can be found at the front of the RYA edition of the Racing Rules of Sailing 2021-2024 (yellow pages after the Definitions).

Details of other RYA racing rules publications can be found on the back page of this book.

Comments or questions are welcome and should be made by email to the RYA at raceofficials@rya.org.uk.

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A INTRODUCTION

A1 Scope and Objectives

The objective of this guide is to attempt to highlight good practice in race management. It is not designed as a fully comprehensive manual, rather as a prompt or aide-memoire for race officials and those involved or interested in open meetings up to national level championships. Not all of the practices will apply to all events and a certain amount of common sense is required when deciding how to run events at whatever level.

For higher level events, the World Sailing Race Management Manual will give more comprehensive coverage of all aspects of the management side of the sport.

Race Officers involved in running Radio Sailing events should refer to the Model Yachting Association (MYA) Race Management Manual.

A2 Rules

Racing Rules of Sailing

What we normally refer to as the Rule Book is the Racing Rules of Sailing (RRS). We should know those rules that affect race management and be familiar with the contents of the rule book. These are not the only rules we are governed by – see the Definition *Rule* in the rule book. These additional rules include the World Sailing regulations which include Anti-Doping, Anti-Corruption, Advertising, Discipline and more, Class Rules, etc. Equipment Rules of Sailing are also rules if invoked by the Notice of Race.

RYA Prescriptions

National Authorities may also publish Prescriptions to the rules which can alter the meaning, scope or effect of the Racing Rules of Sailing. These can be found in the yellow section at the back of the RYA Rule Book.

Equipment Rules of Sailing

The rules covering the use and measurement of the equipment used in the sport. These must be invoked by the Notice of Race.

Class Rules

The rules of the class of boats racing are always rules. For a fleet of boats racing under a handicap system, e.g. IRC – the rules of that system are also rules.

Notice of Race and Sailing Instructions

These event documents and any other documents that govern an event are rules.

A3 Abbreviations

There are a great number of standard abbreviations used in this sport – some of which will appear from time to time in this guide. Here is a list of some of the most frequently used:

Organising Authority	OA	Deputy Race Officer	DRO
Member National Authority	MNA	Course Race Officer	CRO
Racing Rules of Sailing	RRS	Notice of Race	NoR
Race Officer	RO	Sailing Instructions	SIs
Principal Race Officer	PRO	Official Notice Board	ONB
Assistant Race Officer	ARO	Committee Vessel	CV

A4 Terminology

Terms used in the preamble to '*Race Signals'*:

An arrow pointing up or down means that a visual signal is displayed or removed. A dot means a sound signal. Five short dashes mean repetitive sounds. A long dash means a long sound. When a visual signal is displayed over a class flag, fleet flag, event flag or race area flag, the signal applies only to that class, fleet, event or race area.

A visual signal is always DISPLAYED (🡅)

A visual signal that is displayed is at some time REMOVED (🡇)

●	Means a sound signal
- - - - -	Means repetitive sounds
—	Means a long sound signal

Shall	Mandatory action
Will	Intended action
Should	Best endeavours
May	Optional action

A5 Yachts, Cruiser Racers and Keelboats

These terms are sometimes used interchangeably. Keelboats in IRC terms are boats capable of sailing offshore whereas we normally use the term keelboats for dayboats with keels e.g. Squib, RS Elite, Flying Fifteen etc. For the purposes of this guide we will refer to cruising or racing ballasted monohull keelboats that could conform to Offshore Special Regulations Category 4 or less as cruiser racers.

B RESPONSIBILITIES

B1 RYA Racing Charter

As RYA Race officials we must be familiar with the RYA Racing Charter and uphold its principles.

B2 Code of Conduct

RYA Race Officials Code of Conduct

RYA race officials (race officers, mark layers, equipment inspectors, judges and umpires) are among the most exposed officials of the sport. It is therefore essential that they behave with the highest degree of competence, propriety and integrity. At no time can or should a race official do anything to bring the sport into disrepute.

RYA Race Officials who breach this Code of Conduct may face disciplinary action by the RYA.

Specifically, RYA race officials are expected to:

1. Maintain a good level of understanding and application of the racing rules and any additional rules relevant to their discipline as well as RYA procedures and policies.

2. Ensure that decisions are based upon the rules and principles of fairness and objectivity and are made with care without prejudice.

3. Uphold the confidentiality of race official deliberations during and after the regatta.

4. Be polite, open-minded and patient with colleagues, competitors, regatta officials, team officials, coaches and hosts, and deal with dissent in a fair and courteous manner.

5. Declare any conflict of interest before accepting a race official invitation or when one becomes apparent at an event (a conflict of interest exists when an RYA race official has, or reasonably appears to have, a personal or financial interest which could affect the official's ability to be impartial).

6. Plan to arrive at an event on time and remain until relevant issues are resolved.

7. Incur only expenses that are necessary and when expenses are reimbursed claim only legitimate and essential out-of-pocket costs. This may include sharing a room with another race official if requested.

8. Be on time and wear appropriate clothing on the water and ashore.

9. Abstain from consuming alcohol until duties are over for the day. Race officials must never become inappropriately inebriated during an event. Race officials should also refrain from smoking or vaping indoors or whilst carrying out their duties.

B3 Race Management Principles

The Race Management principles have been developed by the RYA to help race management teams deliver high quality racing for competitors, within an environment where everyone involved, whether competitors, volunteer officials and helpers, or paid staff, on shore or on the water, all feel valued, feel involved and feel that they have had an opportunity to grow and develop their own skills and experience.

Being able to understand the need for the following seven principles is important for the race official. Developing a personal attitude and approach that keeps these principles to the forefront in our involvement in the race management aspects of our sport will help us to deliver excellent, race management, with an attitude of continuing improvement.

The seven principles are:

- **Fairness for all**. Racing needs to be run so that all those involved feel fairly and equitably treated, whatever their role, whether that is as a competitor, a member of the race management team on the water, or a tea bar volunteer ashore.

- **Challenging competition**. Racing should be run so that the competition is appropriately challenging for competitors – clearly the degree of challenge that is appropriate will be influenced by the nature of the event and the experience levels of the competitors.

- **Repeatable processes**. A core of good performance is to have well planned, well tested and well executed processes that allow both experienced and new members of race management teams to understand and maximise their personal contribution.

- **Flexibility of approach**. The race management team need to recognise that circumstances or the weather can change unexpectedly, or that competitors may not be satisfied by what had been planned and be prepared and able to respond accordingly to continue to deliver high quality for the competitors.

- **Timely delivery**. As far as possible within external constraints (such as weather) events should follow the announced timings, including briefings, on and off water times, start times, race duration, etc.

- **Learn from experience**. Race management teams need to review and assess what they are doing, both during and after racing and events, applying the lessons that can be learned and looking to identify and apply any improvements as soon as possible.

- **Personal development**. Individual race officers and other members of race management teams need to assess their own skills and experience, and gaps in this, and actively seek ways of continuously improving their ability to deliver high quality racing.

C SOURCES OF INFORMATION

C1 Publications

World Sailing Racing Rules of Sailing 2021-2024 (RRS)

These are the rules under which we run racing. Published every four years – usually just after the Olympics, but even though the 2020 Olympics are postponed to 2021 the rule changes will still take effect on 1st January 2021. World Sailing owns the copyright of the RRS.

World Sailing Race Management Manual

Published on the World Sailing Website and updated from time to time. Covers all forms of sailboat racing.

World Sailing Case Book

Published on the World Sailing website and is the summary of all the appeals handled by World Sailing. These are the definitive interpretations of the rules.

RYA Race Management Guide 2021 – 2024

This publication - published on the RYA website. Updated regularly and soon to be available as an eBook.

RYA Guidance Notes

Published on the RYA website and available as an eBook. These include guidance on offshore race organisation, guidance on team racing and match racing and much more.

RYA Case Book

Published on the RYA website and available as an eBook.

RYA Race Management Newsletter and Facebook

The newsletter is an occasional publication usually sent as an email to RYA qualified race officials. RYA race officials have their own Facebook page: https://www.facebook.com/ryaraceofficials

C2 Race Officials Conferences

RYA National Race Officials Conference

Now run every four years immediately after the rules changes to inform and discuss the changes in rules, policies and procedures. Usually over two days in a central location but in 2021 run over four evenings as a virtual conference. Two years later the RYA will run refresher days in different locations around the country.

RYA Regional Race Officials Conference

In the years where there is no national conference or refresher days, each region will run their own regional conference as a local update on rules, policies and procedures.

C3 RYA Website

Very comprehensive website covering all aspects of our sport. Race officials have their own section of the website: Take some time to explore this section – there is a wealth of information available.

C4 World Sailing Website

Click on 'Technical' on the home page and for a wealth of information and documents.

D EVENT ORGANISATION

D1 Authority to run racing

Races shall be organised by an Organising Authority (OA) – Rule 89.1

Racing may only be conducted under the RRS if there is an Organising Authority and this can only be:

World Sailing

World Sailing also appoints the Race Officials for some of the major events listed in its own regulations. These events include the Olympic Games, Olympic Classes' World Championships and the Sailing World Cup.

A Member National Authority (MNA)

Authority through the RRS is given to Member National Authorities (MNA) of World Sailing. It may coordinate the dates and venues of national events and may approve key event personnel such as the Event Chair, the Principal Race Officer/Course Race Officers, and the Protest Committee Chair. In the UK the MNA is the RYA.

An Affiliated Club

All clubs in the UK that organise racing should be affiliated to the RYA, the MNA for the UK, and as such can then act as an Organising Authority.

An Affiliated Organisation

Not normally a club, may be an organising authority or in conjunction with an affiliated club.

A Class Association

A Class Association, whether affiliated to the RYA or not, may be an organising authority in the UK. When unaffiliated the class association must either have the approval of the MNA or be in conjunction with an affiliated club. Any Class Association will want to ensure that their class rules, both in terms of measurement and their established practice for event organisation, are observed.

Two or more of the above organisations

This would be common where say a club is the OA in conjunction with a class.

An Unaffiliated Body in conjunction with an affiliated Club

Where the body is owned and controlled by the club.

An Unaffiliated Body in conjunction with an affiliated Club

Where the body is not owned and controlled by the club – this requires approval from World Sailing and the MNA.

Important

An organisation which is not an organising authority as defined above may not run racing using the RRS. If it does so, it is in breach of World Sailing copyright and acting unlawfully. Race officials working on behalf of such organisations may face serious consequences, as may competitors.

D2 Classification of Events

Consider events falling into one of three categories:

- Championships - International, National, Regional. The organising authority will negotiate with the class involved as to the number of competitors to be allowed, the number of races involved, the types of courses to be used, the type of start (e.g. line or gate), etc.

- Open Meetings - Visitors from outside of that club are invited to take part. There is generally no discussion with the classes involved but the event is organised using the same checklist used for championships.
- Club Events - These may prescribe that only members of that club can participate. No negotiation with classes is needed.

D3 Pre-Evaluation of the Event

The committee structure will vary according to the needs of the event, its size and its status. Before it is set up it is important that the Organising Authority goes through a process to determine the appropriateness of the host club to manage the proposed event. It is important that an evaluation is carried out prior to accepting the role of Organising Authority. Can the host club match all the requirements requested by the class association or other body proposing the event?

Facilities

Can the club cope with the number of boats expected? Are the catering and bar arrangements sufficient to meet the demands of hungry and thirsty sailors? Are there enough changing facilities with showers and toilets?

Personnel

Does the club or venue, have sufficient experienced personnel to man all the duties required for the proposed event? Will it be necessary to arrange for training sessions with club members for different aspects of the event? Will the club have to look for assistance from outside its own organisation?

Risk Assessment

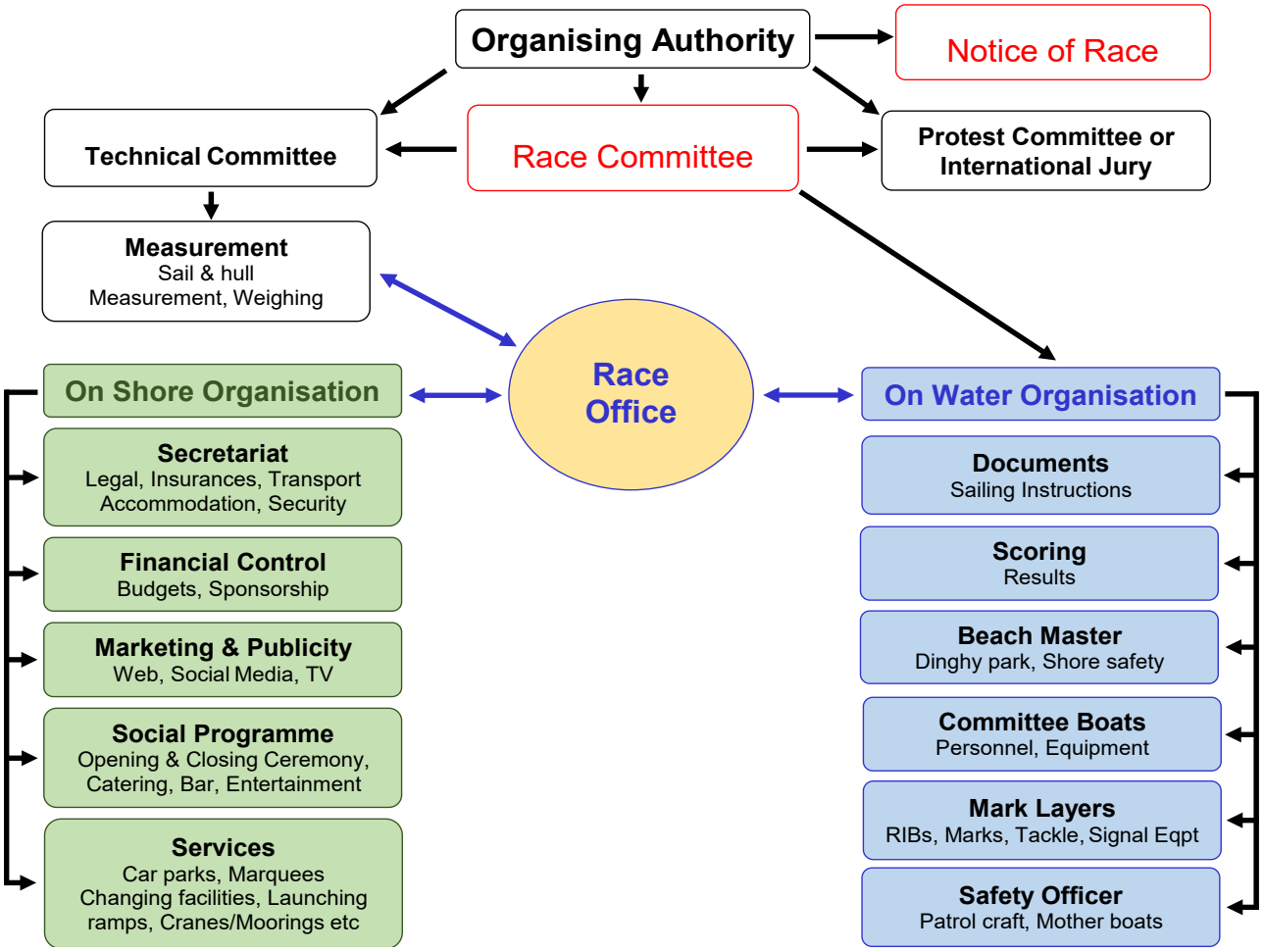
It is most important that the venue assesses the risks involved in running the regatta. Are the weather conditions suitable at the proposed dates? Are there tidal conditions that can create hazards in the racing area and its approaches? Is there likely to be commercial traffic movement that will restrict the ROs ability to set courses?

On shore, are there any hazards such as overhead electricity and telephone cables which could cause problems? Is the venue able to be secured from access by the general public? Is it necessary to employ a security company to patrol the venue?

Conclusion

Once the club has answered the above questions, and any other questions which may be venue specific, a decision to proceed, or not, with the event can then be made. Do not say ‘YES’ to an event simply to host a prestigious event. If there is any doubt about the ability of the venue to fulfil the expectations of the competitors, now is the time to stop the process and say ‘NO, we cannot host this event’. If the answer is 'YES' then planning can start.

D4 Event Committee Structure



D5 The Organising Authority

The Organising Authority

- Shall publish the Notice of Race (See Appendix J for contents)
- Shall appoint the Race Committee
- Shall appoint, when appropriate, the Protest Committee (or International Jury), a Technical Committee (if required) and umpires (if needed)
- May appoint other sub-committees (social, press, etc.)

The Organising Authority has sole responsibility for publishing the Notice of Race. This is normally on the OA's or the class website. If there is a closing date for entries, it should be as close as possible to the event whilst allowing sufficient time to plan for the number of entries received. Such planning should cover all aspects of the event including safety management.

Appendix KG is a Microsoft Word template for a Notice of Race on the World Sailing website. This template uses tried and tested wording. We strongly recommend its use.

The NoR shall be made available to each boat that enters an event before she enters. We must publish the NoR before opening entries.

It is usually better for the OA to appoint the Protest Committee. They can delegate this task to the Race Committee but not if there is any chance of a conflict of interest (Redress etc.)

An International Jury can only be appointed by the OA. An exception to this is when World Sailing appoints an International Jury at the Olympics, its events (including World Sailing Worlds, World

Sailing World Cup and World Sailing Youth Worlds) or other major events as listed in World Sailing Regulation 25 - these include the America's Cup, Olympic Classes World Championships and the Ocean Race.

It is essential that the Organising Authority complies with the requirements of the RRS otherwise competitors will not have the protection of the RRS or the appeal procedures provided by the National Authority.

D6 The Race Committee

The Race Committee

- Shall publish the Sailing Instructions (See Appendix J for contents)
- Shall run the event in accordance with the RRS and the directions of the OA
- Shall score the event in accordance with the rules
- Shall appoint a Protest Committee if appropriate

Appendix LG is a Microsoft Word template for Sailing Instructions on the World Sailing website. This template uses tried and tested wording. We strongly recommend its use. Should you choose to not use the template directly, it is still highly recommended to use the same clause numbering. Doing so reduces the chances of missing out an important section and allows competitors and other race officials to easily find a section they are looking for.

Other responsibilities:

- Responsible for all 'on the water' activities
- Endeavour to ensure the safety of all competitors and others involved in the event
- Adopt the principles of the RYA Racing Charter
- Recognise that success is measured

Who is on the Race Committee?

Chair of Race Committee

Normally this would be the Principal Race Officer but preferably not for big events.

Principal Race Officer

This position only exists if there are multiple courses. The PRO has responsibility for the overall 'on the water' management of the event and may also act as RO for one of the courses. The PRO liaises with the RO on each course. If there is only one course, it is managed by a Race Officer and there is no PRO. The PRO keeps an overview of all courses and is the ultimate decision maker on the overall conduct of the event. The PRO also supervises the onshore aspects of race management, ensures that signals are displayed correctly and that notices are placed on the official notice board. The PRO liaises closely with the Chair of the Race Committee/Event Director.

Race Officer

If there is more than one course, they are sometimes called the Course Race Officer (CRO). The RO is responsible for the actual conduct of the racing on their course. Ideally, the RO is an 'on the water' manager, who lets the team get on with their jobs whilst keeping an overview of what goes on around the entire course. The RO will liaise closely with the Principal Race Officer. The RO and key assistants should record all their actions on voice recorders for later reference. The recorders should be left on during all start, recall and finishing procedures. As the responsible person on a course, the RO will usually represent the Race Committee at hearings for protests or redress requests, although, exceptionally, this role may be delegated.

Deputy Race Officer

The Deputy Race Officer (DRO) works on the main committee vessel with the RO and should be capable of taking over as RO in an emergency. Under normal operating conditions this person would organise the committee vessel personnel to ensure that everyone is in position and ready to proceed. The DRO ensures that all systems on the race committee vessel are ready and operational.

Assistant Race Officer

The Assistant Race Officer (ARO) is on the pin end line vessel and/or the finish vessel and is in charge of the procedures on that vessel. Close liaison with the RO is essential.

Timekeeper

After the RO, this is the most important position on the Race Committee Vessel. It is easier to lose a start sequence should the timekeeper become distracted than any other single cause. It is a position that requires single-minded concentration and a good clear voice.

Visual Signals Officer

The Visual Signals Officer will be responsible for ensuring the visual signals are ready for display and removal at the appropriate time. All timings are taken from the Timekeeper.

Sound Signals Officer

The Sound Signals Officer works closely with the Visual Signals Officer. They have responsibility for all the sound signals that accompany the visual signals.

The Timekeeper may also be the Sound Signals officer if the equipment allows. However, if the Timekeeper is also tasked with giving timing signals by VHF then the extra pair of hands is necessary.

Recorders

The Recorders are responsible for the paperwork on the water. They record:

- Sail numbers of competitors that report at the start
- A log of actions and communications
- Wind direction and strength
- The course(s) used
- Sail numbers of all the boats identified as being OCS
- Sail numbers of boats not *sailing the course*
- Sail numbers of the boats incurring penalties
- Sail numbers of boats correcting errors
- Sail numbers of boats retiring from the race (this requires an input from the Course Safety Leader)
- Sail numbers of the boats being finished on the course area (where the SI's allow for a W flag or Whisky finishing)

A back-up recorder is advisable on the pin-end vessel and the finish vessel.

A good recorder compiles a diary of the whole race day after leaving the dock.

Digital voice recorders should also be used to record finishing positions as they are called while crossing the finishing line. Where a lot of boats finish in a close group this equipment is essential for sorting out conflicts in the results.

Video Recorder

Common practice is now to have a person dedicated to video recording the starts and finishes.

This can be a great help in sorting out sail numbers of OCS boats and sorting the finishing order when many boats finish overlapped.

Pin End vessel crew

Usually the person in charge of the pin end line vessel is an Assistant Race Officer (ARO).

The ARO is required to judge the starting line and to very quickly communicate with the RO what has been recorded relating to boats 'On Course Side' (OCS) at the start. It is important to emphasize that the ARO acts in an advisory capacity only. The decision as to which boats are over, or if the line is 'clear' (no boats over), rests solely with the RO. Communication with the RO is best by mobile telephone but if this is impossible, then by VHF.

Mark Layers

A good mark layer is a tremendous asset to the race team. They can also provide the RO with wind information at various points on the course. Mark layers must be able to measure the wind strength and angle at any time and report this to the RO, working from a vessel which should be a fast powerboat equipped with a GPS. Normally there would be two mark laying vessels per course. This facilitates the fast adjustment of the course to a new wind. Should the equipment and personnel be available, one mark laying vessel per mark is optimal.

Mark layers may also be used as additional patrol/safety vessels when circumstances demand, although their main task is always to stand by for alterations to the course in the event of a wind change.

Beach Master

A beach master (appropriate to dinghy and board racing) ensures the orderly and systematic launching of boats and retrieval on their return. Important safety checks such as noting who has and has not gone afloat, and similarly, who is still to return must be completed by the Beach Master. A system of signing in and signing out (or a tally system) should be adopted. The Beach Master communicates, usually by VHF, with the RO giving the time that the last boat left the beach and the expected number of boats in the starting area.

Bridge

In larger events it is common to have a "Bridge" as the main conduit of communication between the race course/s and shore. This would be radio operators recording the activities on each individual course and acting as the shore contact of that course race team.

Event Safety Officer

In dinghy and board racing the Event Safety Officer deals with safety and rescue operations under the guidance of the RO. In practice, they both work together very closely although the RO is ultimately responsible for the safety of the event. The Event Safety Officer must be familiar with the event venue, the characteristics of the class(es) competing, the class rules and, of course, the SIs. Cooperation with local rescue organisations is highly recommended. In the case where there are multiple courses some of the duties would be delegated to a Course Safety Leader.

D7 Protest Committee or International Jury

Protest Committee

- Protest Committee appointed normally by the Organising Authority
- If appointed by the Race Committee, they should consider conflict of interest (i.e. redress etc.)
- Need a good chair
- Suitable for club and minor events

Independent Protest Committee (Jury)

- Independent, that is, of the Race Committee, members possibly from other clubs
- Not to be confused with an “International Jury”
- Often afloat during racing
- Suitable for open events where sailors come from other clubs

International Jury

- Independent committee
- Appointed by the Organising Authority or World Sailing
- Immune from appeals
- Appointed under Appendix N

Other considerations: Will the Protest Committee be required to police Rule 42, on the water, under Appendix P – May need to consider Oscar and Romeo procedures for those classes whose class rules enable Appendix P.

An International Jury is normally only required for major events, especially those that require an unequivocal result before competitors depart.

D8 Technical Committee

Technical Committee

Responsible for all equipment Inspection, sail and hull measuring and weighing. At smaller events this is sometimes not required or consists of a very small team – maybe even a solo measurer. Has the power to protest a boat and is required to do so if they believe the boat or personal equipment is not compliant with the class rules.

D9 Interaction between the Protest Committee and Event Organising Committee

A draft of the SIs should be sent to the chair of the Protest Committee or International Jury for comment. This will avoid confusion between the Race Committee and the Protest Committee during the event. The Protest Committee should limit its comments to interpretation. The method of working, as described in the SIs, is strictly the province of the Race Committee. This avoids lengthy debates at the initial meeting with the Protest Committee at the event and long lists of "Amendments to the Sailing Instructions".

It is important to schedule a meeting between the Protest Committee, the PRO, ROs and any other key personnel prior to the first competitor/coach meeting to discuss:

- On the water procedures (course changes, limitations on racing, 'O' and 'R' procedure, etc.)
- The procedure for processing the protests
- SIs and any changes to them
- Any reports of the Race Committee to the Protest Committee
- Protest Committee/Race Committee relations

Protest Committee members may go out to the racecourse to familiarise themselves with the courses, the types of boats sailed and to observe the weather conditions in which the races are conducted. Depending on the OA policy they may be required to actively monitor rule infringements on the water. If this is the case, the procedures they will follow should be detailed in the SIs.

E RACE MANAGEMENT FACILITIES

E1 Race Office

The race office is the administrative centre of the event. It should be well equipped to deal with any necessary administration. The race office should have all the necessary items found in any efficient office. The race office is best split into the 'front' office and the 'back' office.

Front Office

The 'Front' Office will be the point of contact between the competitors and the organisation. It will deal with SIs, tickets for social events, first aid, etc. This will also be the point of contact for the press and media from where they will receive all the information they require. For very large events a separate Media and Press centre should be provided. The front office should also have instant access to the emergency services.

Back Office

The 'Back' office should have access restricted to a few key personnel. This is where the Race Committee and the Class Association representatives can meet as required. The results will normally be processed here.

It has become more common for some of the facilities of the race office and the official noticeboard (see below) to be moved on-line.

E2 Official Notice Board (ONB)

The race office must also provide an Official Notice Board with the following sections:

- Race Committee
- Protest Committee
- Technical Committee
- Results

The board(s) must be located close to the race office (although it is becoming increasingly common to have the official notice board solely on the event website). Posting of notices should be limited exclusively to Race Office personnel and the Secretary to the Protest and Technical Committees.

Auxiliary Notice Board

A second information board will serve to post: meteorological information, social programme, map of the facilities, town map indicating services, as well as locations of the social events, etc.

A designated section of this board may also be used by competitors to put up their advertisements. This will preclude the posting of numerous "for sale" messages in undesired areas.

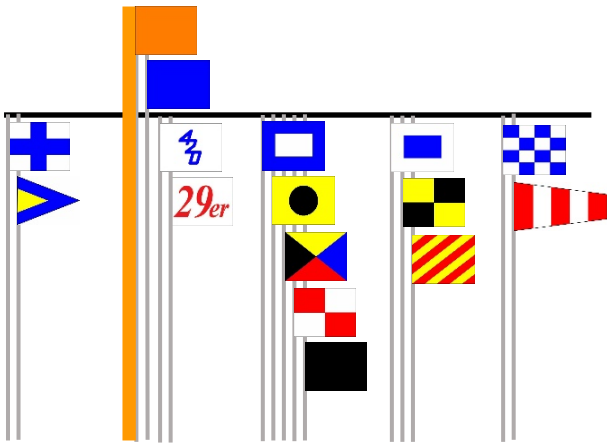
E3 Official Signal Mast

One of the responsibilities of the staff in the race office is to display visual signals and make the appropriate sound signals, on the official signal mast on shore. All these signals should be authorised by the RO. In many events, this job is allocated to the beach master. Only one person should operate these signals so that a standard practice is followed.

The location of the official signal mast should be in a prominent position - the position of the ONB and the official signal mast must be described in the SIs. A set of flags or other appropriate visual signals should be available at the race office, to include flags A, L, N, Y, AP, D (when mentioned in

the SIs), Numeral pennants 1 - 6 and appropriate class flags and any course area flags etc. A sound signal device (horn) is also necessary here.

E4 Signal Vessel



The signal vessel should be a committee vessel of sufficient size to accommodate the Race Committee personnel. Depending on the shape of the course, it may also act as Finishing Vessel. It should be appropriate for the conditions likely to be encountered and have adequate cover against too much sun, wind, rain or other inclement weather. It should have a GPS and appropriate charts and, of course, a toilet. It should be manoeuvrable, visible and clearly identified in accordance with the SIs. An anchor windlass is also very useful.

A full set of visual signals should be carried and, if flags, attached to the halyards as indicated. Note that the recall signals are forward of the start line end. Visual signals attached to poles is an alternative system. Since a visual signal is 'displayed' as soon as it becomes conspicuously visible, thought needs to be given so that this occurs at the correct time. Poles may achieve this better than a halyard system unless shock cord is the material used for the halyard or the flag is 'broken out'. The latter involves hoisting the wrapped flag before a tug on the halyard unfurls it.

The mast which is to be used as the committee vessel end of the start line should be tall and clearly visible. For ease of sighting the start line some ROs prefer to use a starting mast rather than the vessel's main mast. The orange flag must be displayed from whichever mast is used.

A system to produce long and short sound signals is also required.

E5 Marks

Marks should be large and bright, visible against sea or land, (bright yellow or rescue orange are ideal) with ground tackle which is heavy enough and long enough. Ensure that there is enough weight directly under the mark to keep it upright. When talking to the mark laying teams marks will be referred to by their number as defined on the course diagram. They do not necessarily have to have those numbers painted or stuck on them.

E6 Personal Equipment

Most ROs will have their own equipment which should include:

- Wind direction indicator
- Hand bearing compass
- Anemometer
- Course laying aids
- Stop watch
- Tape/digital recorder
- VHF radio
- Handheld GPS
- Adequate all weather clothing
- Mobile phone
- Range finder
- Binoculars.

F EVENT SAFETY

F1 Safety - General

Whilst the boats are entirely responsible for their own safety (Rule 1, Rule 3 and standard safety SIs) the RO has ultimate responsibility whilst on the water for the duty of care held by the Organising Authority.

Prior to the event taking place it is important to carry out a risk assessment and to produce a 'Crisis Management Plan'. A daily risk assessment should also be completed.

The safety management adopted differs according to the nature of the event. Factors influencing the type and amount of safety cover provided include:

- Boat types - the requirements of cruiser racers, keelboats, dinghies, boards and model boats are very different from those of each other. Mixed fleets often pose complex problems of safety.
- Number of boats - both the type and the amount of safety cover is often determined by the number of competitors.
- Location of racing - the safety requirements of ocean racing differ from offshore racing, racing inland or in an estuary.
- Ability of the competitors - it is often the ability of the less able sailors in the fleet that determines the level and type of safety cover necessary.
- Age of competitors - both the young and old have greater requirements when compared to fit adults.

Medical facilities must be available either via the event itself with a medic onsite, or through the emergency services and local hospitals. All boats involved in the management of an event should be equipped with a first aid kit as a minimum requirement. It may be necessary to have additional resources to manage disabled, young and vulnerable competitors

F2 Dinghy and Board Events

A safety officer will deal with safety issues under the direction of the RO. Reporting to the Safety Officer will be a team of individuals in RIBs who are experienced in safety on the water and have patrol boats that are appropriately equipped. As an extension to this aspect of race management the provision of a mothership (described later) may be appropriate. For large, multi-course events a shore based Event Safety Officer may be appointed, who would work closely with the PRO. The Course Safety Leaders taking responsibility on the water for individual course areas.

A system, such as a tally system, should be in place so that the number and identity of sailors afloat is known at any one time. This needs to be backed up by procedures to verify that a boat which has not tallied has genuinely not gone afloat. There should also be a system for the extended Race Committee such as patrol vessel crews and mark layers.

The following issues also need to be considered:

- A system with which to identify boats from which the crews have been removed, such as marking with streamers.
- Contingency plans for a change in conditions including the onset of fog, heavy rain or strong winds.
- A method understood by all safety crews to patrol effectively when boats sail out to the race area, race and return to the dinghy park.
- A policy for identifying and assisting crew at a capsize and when to intervene.

- Knowledge of the type of boats racing and how to right a capsized boat of this type (often best obtained from coaches of the class concerned).
- Methods for effective communication between patrol vessels and also with the RO using VHF (especially when conditions make this difficult such as strong winds).
- Liaison with shore-side facilities and emergency services to cope with medical emergencies and injuries including a designated point for landing such incidents.

Size and Location of the Race Area

Racing in coastal waters and estuaries is often monitored by VHF on the main committee vessel. Inland races can be monitored perhaps from the club office with visual contact through a window. A means of communication with the safety fleet will still be required.

Number of Race Areas

The requirement for a centralised system of communication and coordination of cover is determined by the number of race areas. At a major event with multiple course areas the most efficient management of the safety systems will be affected through a centralised base. Again, this could be afloat, with an event safety leader on a committee vessel, or ashore in an office. Communication from the safety fleets to the central base is usually via VHF radio but may also be made with mobile telephones.

When racing is on a single course it is often not necessary to have a base other than the RO or safety officer.

Mode of Assistance

Dinghies and boats that are likely to capsize are best assisted by RIBs or similar small vessels. A patrol plan for the RIBs is essential to effect good safety monitoring and cover. This plan must be defined and understood by all safety crews to patrol effectively. Each safety vessel will have a designated area to patrol during the race and during transit of boats to and from the racing area.

During the racing, safety vessels will move to a pre-allotted patrol zone. Generally, one or two vessels would cover each leg of the course with overlapping areas around the marks. Safety vessels should also be stationed at locations where capsizes are likely. Depending on the class this might include a bear away, gybe or rounding a gate. In the event of bad visibility, heavy sea, strong wind, etc, safety vessels should also be stationed at the leeward aspect of the course to 'mop up' - this is especially important if the wind is offshore. If more safety vessels are available some can have a roving role.

Patrol Vessels

The number of patrol vessels at an event depends on the competition level, age, ability and number of competitors, anticipated conditions, etc. There is no recommended ratio as there are too many variables to consider - so it's a matter of common sense and judgement. Many classes will have their own policies which can be a very useful guide. Patrol vessels should be of a design and size appropriate to the task - RIBs are commonly used.

Patrol Vessel Crews

All patrol vessels should normally have a minimum of two adults aboard, at least one of whom must be competent. It would be unusual to have more than three people aboard. It is essential that the vessel carries enough fuel to cope with any emergency. The driver must use the kill cord at all times whilst the engine is running.

Patrol Vessel Equipment

Equipment should be carried by all patrol vessels appropriate to the area where racing is held - a harbour, offshore or an inland waterway. This may include: fully functional VHF radio, whistle or fog horn, compass, GPS, mobile phone, anchor and warp suitable for the race area, sharp knife

(preferably serrated), kill cord and an easily accessible spare, personal buoyancy for the crew (to be worn at all times), distinctive tape with which to identify abandoned boats, paddles and bailer, drinking water, tow rope (preferably made of floating line) and towing bridle, distress flares, waterproof first aid kit and survival bag or thermal protective aid.

The following equipment should also be carried by a proportion of the Patrol Vessels on each course, the number being dependent on the size and type of event: wire cutters to cut away rigging and trapeze wires, tool kit, GPS, torch, spare radios.

Mothership

A vessel of sufficient size to hold its own crew plus any possible casualties or competitors seeking respite from the conditions (or just needing to use the toilet). In most instances the mothership is best anchored close to leeward of the race area. The patrol vessels will bring rescued boats and competitors to this vessel, thus allowing the patrol vessels to stay in the race area. The mothership may also have appropriate equipment to compliment that of the patrol vessels. The competitors will be very happy if there is a toilet and the facility to serve hot drinks.

Emergency Guidelines

In the event of an emergency occurring (including severe injury to a sailor or event personnel or structural damage endangering the safety of a boat in the event), the first vessel on the scene at the incident, should inform all stations using a predetermined code (such as 'Code Red') and the location of the incident. The code itself is to be defined in the safety plan and emphasized at the briefings. An immediate assessment of the situation by the designated person, usually the race officer or safety officer, is made and if appropriate the incident plan then becomes active.

If the situation is considered to be hazardous to the rest of the fleet the race officer may elect to stop racing by either shortening course or abandoning the race as appropriate.

An emergency is only declared closed when the situation has been resolved. The race officer will only then inform all stations that 'Code Red' is cleared.

F3 Risk Assessment

As a matter of good practice and to ensure you have covered every aspect, a risk assessment should be carried out for every event.

The assessment should identify each risk element, the intensity of the risk (low to high), the measures that are in place to minimise the risk and the actions to be undertaken if an incident occurs. This assessment should be carefully documented.

Take care to include risks to all parties that may be affected by the event, not just competitors; for example: event officials, spectators, rescue organisations, non-competing vessels, etc.

The RYA Legal Department has provided a guidance note on Risk Assessment for Events in Harbour Authority Areas to help event organisers ensure they are compliant with the requirements of the Port Marine Safety Code. The guidance note contains a template risk assessment which will need to be modified to take account of the circumstances of each event.

Check whether local regulations require a risk assessment to be lodged and with whom and in what form.

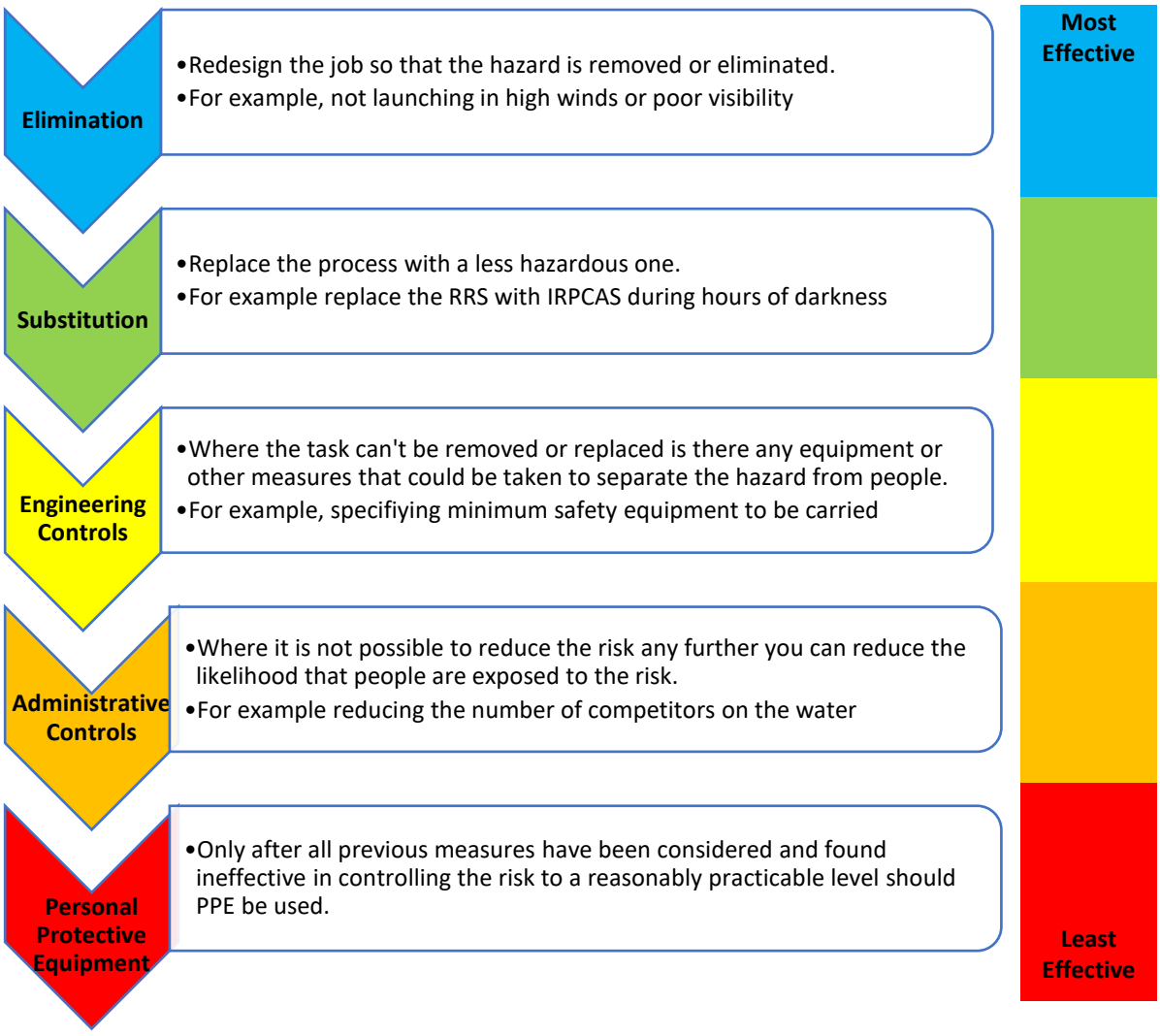
Risk assessments should be prepared by the Event Safety Officer, where appointed, and subject to review by other key members of the Organising Authority and Race Committee. The risk assessment should be prepared far enough in advance that there is time to put in place any required mitigations for unacceptable risks.

Event organisers should aim to follow the 'ALARP' principle and ensure all risks are suitably mitigated until they are As Low As Reasonably Practicable.

Hierarchy of Risk Mitigation

When considering the mitigations to be put in place to reduce risk to a level that is ALARP, it should be borne in mind that some control measures will be more effective than others. This is known as the hierarchy of risk management.

Wherever practicable a mitigation measure in a higher tier should be chosen rather than simply selecting the easiest to implement. In some cases, it will be appropriate to combine multiple control measures from different tiers.



F4 Daily Risk Assessment

In order to supplement the overall event risk assessment and safety plan, it can be helpful to conduct a daily risk assessment. For multi-course events each CRO should complete this before going afloat for the day and the PRO should check for consistency.

Many venues now utilise a quantitative style of risk assessment which allows for easy completion and a quick guide as to whether further mitigations may be required. This format also allows for consistent decisions to be made regardless of who is completing the risk assessment.

In order to generate a daily risk assessment template you should first identify the key factors affecting risk and then for each factor assign some objective (measurable) criteria which define how much risk each factor is providing to the overall risk profile. Some of these will be venue specific.

Below is an example of a daily risk assessment form used by WPNSA. It can be seen that by assigning a risk score for each factor a total risk score can be found. Should the risk be too high then it may be lowered by making changes to the plan such as increasing the safety cover ratio or racing in a lower risk sailing area.

Example form:

Risk Value	1	2	3	4		
WIND STRENGTH	0 to 8 KNOTS	9 to14 KNOTS	15 to 22 KNOTS	23 to 30 KNOTS		32
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH	High Risk Area	30
						28
WIND DIRECTION	SW S W	NW SE	N	NE/E		26
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		24
						22
AIR TEMP	25 to 20 degrees C	19 to 15 degrees C	14 to 10 degrees C	9 to 5 degrees C	Medium Risk Area	20
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		18
						16
WIND CHILL	20 to 15 degrees C	14 to 10 degrees C	9 to 5 degrees C	4 to -5 degrees C		14
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH	Low Risk Area	12
						10
SAILING AREA	HARBOUR	HARBOUR	BAY	BAY		8
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		6
						4
STANDARD OF SAILOR	OLYMPIC ABLE BODIED	CLUB LEVEL SAILOR	COMPETENT SAILOR	1 AND 2 POINT DISABLED SAILORS		
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		
SAFETY COVER RATIO	1 RIB TO 6 BOATS	1 RIB TO 12 BOATS	1 RIB TO 15 BOATS	1 RIB TO 20+ BOATS		
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		
SAILING TIME (HOURS)	1	2	3	4+		
RISK LEVEL	LOW RISK	LOW / MEDIUM	MEDIUM / HIGH	HIGH		
Risk Value Total		**8**	**12**		**Total Risk Level =**	**20**

G NOTICE OF RACE AND SAILING INSTRUCTIONS

G1 Notice of Race

Notice of Race

The NoR is published by the Organising Authority and shall conform to RRS Appendix J1. This changed considerably in the 2021-2024 rules.

- Published by the Organising Authority
- NoR contents are rules
- NoR can change rules
- Appendix J lists all the items that should be included in the NoR
- Do not repeat the RRS
- Can be amended – see Rule 89.2(b)

The Notice of Race is your invitation to a potential competitor to take part in the event. As such it should contain all the information necessary for a competitor to decide whether to enter the event and any information required to prepare for the event.

Drafting the NoR must be done with great accuracy. Appendix J lists six items that shall appear in the NoR and a further twelve which shall be included if they apply and a further ten that shall be included if it will help the competitor to decide to enter.

Appendix KG is a NoR template, available on the World Sailing website. The words used are those approved by the World Sailing Racing Rules Committee. This provides a standard terminology.

The template provides alternatives, that is, a 'pick and mix' system with marginal notes. This enables the Organising Authority to tailor the NoR to the event. It is good practice to keep the same order, paragraph numbering and format as used in the templates.

As the NoR content are rules, any other information such as social events, how to get there, etc. should NOT be in the Notice of Race. This information is vital to competitors but should be published in a separate information document.

The NoR can be amended provided adequate notice is given. The amount of notice required will depend on the impact of any change, for instance a change to the latest time of the last race may need to be made months in advance for an event where competitors may need to book flights but for a local event it may be made with only days or weeks notice. Any boats that have entered before the amendment should be notified directly.

G2 Sailing Instructions

Sailing Instructions

The SIs are published by the Race Committee and shall conform to RRS Appendix J2. This changed considerably in the 2021-2024 rules.

- Published by the Race Committee
- Sailing Instructions are rules
- Sailing Instructions can change rules
- Appendix J lists all the items that should be included in the SIs
- Do not repeat the RRS
- Do not repeat a rule in the NoR
- Can be amended Rule 90.2(c) (In writing to Official Noticeboard within time stated in SIs)
- Can be changed verbally - **ONLY** on the water - and **ONLY** if procedure written into the SIs

When writing the SIs reference to the NoR should be made. This will ensure that statements made in the NoR are compatible with the SIs. It is not necessary to repeat in the SIs rules which are in the NoR.

The SIs are extremely important and must be prepared with great care. The effective operation of the event, the responsibility and authority of the officials, the link to the Racing Rules, and the Appeal Authority are all governed by these instructions. All officials associated with the actual conduct of the regatta must be thoroughly conversant with them.

Appendix J lists seven items that shall appear in the SIs and a further twenty nine which shall be included if they apply.

Appendix LG is a Sailing Instruction template, available on the World Sailing website. The words used are those approved by the World Sailing Racing Rules Committee. This provides a standard terminology.

The template provides alternatives, that is, a 'pick and mix' system with marginal notes. This enables the Organising Authority to tailor the SIs to the event. It is good practice to keep the same order, paragraph numbering and format as used in the templates.

For top-level regattas, there is an expanded version of the SI template to be found on the World Sailing website. This contains provisions for even the largest and most complicated multi-class events including SIs for The Medal Race format.

G3 Relationship between Notice of Race and Sailing Instructions

These are preferably written together. If this is not feasible then write the SIs with a copy of the NoR in front of you. Always use the templates from the World Sailing website as the basis for your documents. The NoR is always published first. Copies of NoR and SIs should be posted on the Official Notice Board (ONB) and may be made available at registration. It is now normal for NoR and SIs to be only available by downloading from the event or class website.

The NoR and SIs are part of the Rules. Any conflict between NoR and SIs is dealt with by Rule 63.7 when the Protest Committee applies the fairest interpretation of the conflict.

G4 Changing Rules

Both the NoR and SIs may change some racing rules (in the RRS). Rules that cannot be changed are rules listed in 86.1(a), rule 76.1, 76.2 and Appendix R. In particular, note that the RRS definitions and class rules cannot be changed. Changes are made by referring specifically to the rule and stating the change. The words used to state the change are important: do not say 'Amend', 'Vary', 'Add' etc, but always say 'Change'. e.g. "…….This changes Rule 26". It is a very good idea to highlight those rules that cannot be changed in your RRS book for reference whilst writing your NoR and SIs.

Without changing the RRS, NoRs may:

- Replace the Rules of part 2 with the IRPCAS or government right-of-way rules – Preamble Part 2
- Specify an alternative communication in addition to hailing for a boat to indicate her need for room to tack or her response – Rule 20.4
- Introduce new signals – Rule 25
- Vary the interval between the warning and preparatory signals - Rule 26
- Require the wearing of personal flotation devices – Rule 40.2
- Implement the use of penalties other than turns - Rule 44.1

- Vary the weight of competitor clothing and equipment – Rule 50.1(b)
- Invoke Appendix TS for Traffic Separation Schemes – Rule 56.2
- Deny the right to appeal against Protest Committee decisions - Rule 70.5
- Specify times when boats are required to be in compliance with the class rules – Rule 78.1
- Require competitors to satisfy categorization requirements – Rule 79
- Change the class rules in certain circumstances – Rule 87
- Identify the prescriptions that will apply when the race passes through the waters of more than one national authority – Rule 88.1
- Specify a scoring system other than Appendix A to be used – Rule 90.3(a)
- Specify a time limit for results to become 'final' – Rule 90.3(e)

Without changing the RRS, SIs may:

- Introduce new signals – Rule 25
- Vary the interval between the warning and preparatory signals - Rule 26
- Require the wearing of personal flotation devices – Rule 40.2
- Permit the use of an engine - Rule 42.3(i)
- Implement the use of penalties other than turns - Rule 44.1
- Vary the Protest Time Limit - Rule 61.3
- Define the national authority responsible for appeals when the race passes through the waters of more than one national authority – Rule 70.3
- Deny the right to appeal against Protest Committee decisions - Rule 70.5
- Specify times when boats are required to be in compliance with the class rules – Rule 78.1
- Specify a scoring system other than Appendix A to be used – Rule 90.3(a)
- Vary the number of race scores excluded in a series Rule A2

Class Rules may change only rules 42, 49, 51, 52, 53 and 54.

A Member National Authority (the RYA in the UK) may change some rules within the RRS if considered appropriate (subject to the RRS allowing this - some rules cannot be changed). These are known as Prescriptions and they apply to any event organised by that Organising Authority or an authority affiliated to that MNA. Prescriptions can be changed by the SIs unless World Sailing have given authority that they cannot be changed, as is the case in the UK with the RYA Prescriptions.

G5 Changing the NoR or SIs after publishing

SIs may only be changed by following the process outlined in the RRS: In writing and posted on the Official Notice Board within the required time limits. SIs can be changed verbally but only on the water and only if the procedure is described in the SIs.

G6 Appendix S Standard SIs

For Club and other smaller events Appendix S is a "standard" set of SIs containing nearly everything needed to run these events and can be invoked by stating in the NoR "Appendix S applies".

These standard instructions can be used but where many changes need to be made we recommend writing your own SIs from scratch using the Appendix LG template as a basis.

H RACING FORMATS

Sailing competitions may be run in different formats. Some events have been specially created to make use of the new competition formats, for example events for match racing. The most frequently used formats are:

H1 Fleet racing

Most frequent and "classic" way of competition in sailboat racing: there are several different formats of fleet racing. They are:

Handicap Racing

Boats of different classes race together in one or more races on the same course using one of the different handicapping systems. This format is very common in offshore racing, but also for small cruiser boats. They may or may not start at the same time for each race. The elapsed time (how long it has taken the boat to complete the full course) is adjusted using one of the handicapping formulas, to provide a 'corrected time'. The boat with the fastest 'corrected time' is the winner. IRC, ORC International & ORC Club are some of the most common formulas in international racing, but there are many other used national or locally including the RYA's commonly used NHC system.

At Club level, handicap racing under the Portsmouth Yardstick or other system is commonly used for dinghies where there are not enough of one type of dinghy to form a 'One Design' class.

One-Design Racing (Class racing)

Boats of the same class race together, starting each race at the same time and sailing on the same course. Scoring follows the principle that the better a boat's finishing places, the better her overall results (see RRS Appendix A). The fleet can be unlimited in size, which can lead to very long start lines.

H2 Match Racing

Matches are short races between two competing boats of the same class/design. All competitors may meet each other in one or more matches, competing in a Round-Robin series, or sailing against only some other competitors in a knock-out series. Scoring is based on the number of wins in the matches sailed. Matches are usually umpired and penalties given on the water. Racing is normally under RRS Appendix C which modifies some RRS to apply to this particular format.

H3 Team Racing

Two teams of two or more boats meet each other in one or more matches, competing in a Round-Robin series, or sailing against only some other competitors in a knock-out series. Scoring is based on the number of team wins in the matches sailed. Matches are usually umpired and penalties given on the water. Racing is normally under RRS Appendix D which modifies some RRS to apply to this particular format.

H4 Handling large fleets

When the entry for an event is large – normal line starts for a large fleet can become unmanageable. There are several ways to handling this including:

- Gate Starts
- Centre Line Committee Vessel
- Sailing in groups

Gate Starts

Large fleets can be handled by using a moving start where a pathfinder boat from the class starts sailing on a close hauled course to windward on port tack. They sail from a fixed mark laid about 20m in front of the Committee Vessel or from a floating mark dropped by the Gate vessel. The pathfinder is followed closely by the Gate Vessel (usually a RIB). Boats start by passing the stern of the gate vessel on starboard tack. The pathfinder is eventually released to continue on port tack or to tack away and after a time prescribed in the SIs the gate is closed.

The wind needs to be stable in both strength and direction and the tidal flow even in the starting area so that the pathfinder can sail a true course. Gate starts take a little work to get right. There is a comprehensive guidance note on gate starts available on the RYA Website.

Centre Line Committee Vessel

This technique has been used for large, small cruiser racer fleets e.g. J70s. The line is set at the correct length for the whole fleet but an additional committee vessel is placed at the half way point in the line. Boats can start on either side of this vessel on either line. Line sighters are placed on the centre committee vessel looking at both sides of this split line.

Sailing in groups

By far the most popular method of handling large numbers of entries (particularly dinghies) is sailing in groups. The entry list is split into groups of as near as possible the same size. The number of these groups depends on the number of that type of dinghy that can be handled on a single start line. In the case of a long event, say six days, we could run a qualifying and then final series. The groupings on the first day are changed for the second day and again for the third day. We then seed the groups by ability for the last three days, so we end up with a Gold, Silver, Bronze fleet etc. These groups then do not change.

The Medal Race

The competition format known as the ‘Medal Race’ has been adopted for the Olympic event and is also used at all major events for Olympic classes. Each class sails an “opening series” as explained above (either a single series or a qualification series followed by a final series) and then a medal race where only a small number of boats take part – usually the top ten. Template SIs for this type of event, (Appendix LE – Expanded Sailing Instructions Guide - and Addendum Q) are available on the World Sailing website.

H5 Ocean, Offshore and other Cruiser Racer Events

There is further guidance for Offshore Race Organisation on the RYA Website but the basic concepts of safety remain the same as with dinghies and boards but there are other issues to take into account.

Size and location of the race area

Course areas are extended and may be out of sight of land. Offshore racing requires a 'base' that is responsible for monitoring the location and progress of those boats involved using all technology available - tracking devices and satellite communication systems when boats are likely to be far apart. VHF monitoring both by the competitors themselves and/or a 'base' when racing is likely to be relatively compact. The base will be either afloat, as in the case of a Command Committee Vessel, or on land.

Whatever system is used it must have the ability to communicate with both the competitors and land based rescue services. Clearly this type of monitoring must exist at all times whilst racing is taking place so is likely to be a 24 hour watch from the start and until all boats have reached a harbour or other safe haven.

Mode of assistance

The delivery of assistance to competitors is determined by the types of boats racing. Large yachts are self-sufficient to a certain extent until they require the services of specialist rescue services such as is offered by coastguard agencies. In the case of injury to competitors on such yachts, they are often safer and more comfortable remaining on the yacht than being transferred to another vessel or RIB. Urgent attention is possibly best affected by helicopter transfer.

Intention to Race and Declarations

This can be a requirement of the SIs that enables the race officer to know who is on the water and who is on land or in harbour. Again, it is dependent on the type of boat involved. For yachts it is a common policy requirement that boats sail close to the main committee vessel in the pre-start period and call the Race Committee by VHF when retiring from a race or returning to harbour prematurely. Prompt submission of paper or electronic declarations after racing is a common addition in offshore racing.

Personnel

Fewer personnel are involved in safety for cruiser racer and ocean racing. The skills of those involved are different, the main ability being communication and organisation - to alert the rescue services. as is appropriate and coordinate activity where necessary whilst maintaining contact with the competitor and keeping them informed as to progress being made.

Equipment

The equipment required for ocean racing is limited to tracking devices, Automatic Identification System (AIS), satellite communication systems and VHF radios. VHF radios and mobile telephones are necessary for inshore yacht racing.

Communication

Good communication is essential between all involved in any safety plan and, of course, the competitors themselves. Good briefings should be made by the race officer to the competitors before racing takes place. This is sometimes in the form of 'competitors' notes' when boats are not located in the same place and arrive at the race area form many different locations.

Emergency Guidelines

In the event of an emergency occurring, the competing yacht should inform the Committee Vessel with incident details including its location or, if life is endangered, issue a Mayday call.

I COURSES USING LAID MARKS

I1 Location of the Course Area

For dinghy racing the ideal location will give:

- Clean winds
- Even depth of water
- Minimal tidal currents
- Enough space
- Course areas not overlapped

The main intention is to give the competitors choices as to which way they go on the race course.

- True Beat — As good as it gets
- One-sided Beat — Competitors have reduced options
- Beam Reach — Some Classes want them – most now do not
- Fine Reach — Can be a challenge to boat handling and spreads the fleet out
- One-sided Run — Competitors have reduced options
- True Run — As good as it can get

Proper Course

A course a boat would choose in order to *sail the course* and *finish* as soon as possible in the absence of other boats . . . .

The field of play is the area covered by all Proper Courses – we must aim to maximise the Field of Play to give the sailors more options

It is more important to get the downwind leg correct than the beat.

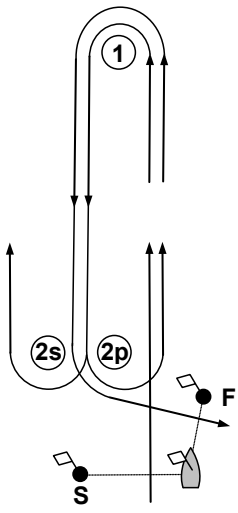
I2 Types of Course

There are a number of different course configurations and lots of variations on these. The most popular would be:

- Windward-Leeward
- Sausage Triangle
- Trapezoid

Windward-Leeward Course

This is the simplest of courses to set and is used for all types of boat. A gate gives competitors additional decisions to make by providing the opportunity to choose which side of the next beat to use without having to cross boats running downwind with spinnakers. An offset mark 1a can also be used as an offset and for safety.



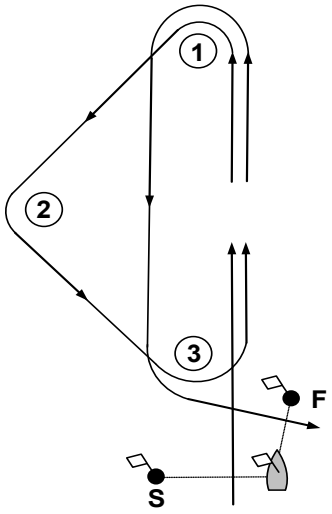
The most usual position for the start line is immediately downwind of the gate. Distance of 0.05nm (100m) is sufficient and is the distance used for the reference point tables.

Possible variations on this course include:

- More rounds
- Finish upwind of Mark 1
- No Gate
- Finish downwind (can give problems recording)

Sausage Triangle Course

This used to be known as the 'Olympic' course. Please do not call it that as it has not been used since pre 1996.



However, some classes still prefer this course for their championships. When there is a one class Championship, and the class require reaching legs, then this should be the preferred course. It has the advantage that when mark 2, the gybe mark, is positioned correctly it can give a variety of reaching angles.

As far as the reaching legs are concerned, some classes prefer an equilateral triangle, giving 60^0 at all marks. Other classes prefer a slightly broader reach and so they have 45^0 between marks 1 and 2 and 90^0 at mark 2. Finally, there are those classes who would like a close reaching leg and a broad reaching leg. This is best achieved by having 70^0 at mark 1, thus giving a close reach from mark 1 to mark 2 and a broad reach between marks 2 and 3.

In the initial discussions, the advice of the class association should be sought as to the most suitable reaching angle for the particular class of boat. The windward-leeward leg covers the other two aspects of racing, the beat to windward and the downwind run.

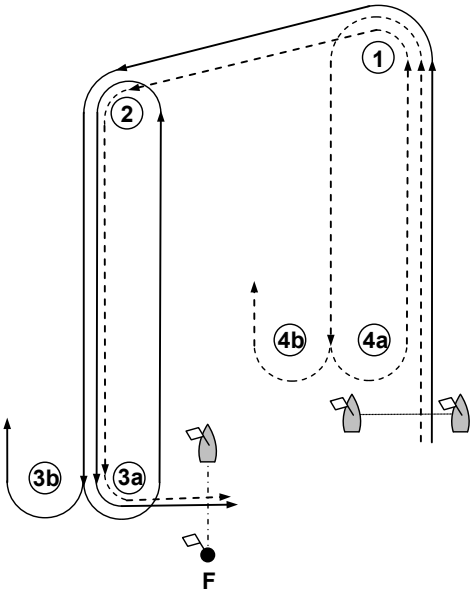
The most usual position for the start line is immediately downwind of mark 3. Some 100 metres is sufficient distance. Some Race Committees have set the start line upwind of mark 3. Care should be taken when doing this that there is sufficient distance between the start line and the windward mark to allow the fleet to spread out before reaching mark 1.

The traditional place for the finish line in this course used to be approximately 50 metres upwind of the windward mark. However, this is not the best place if more than one race per day is to be sailed back-to-back. More recently, the it has been common to position the CV approximately one third of the distance up the windward leg. This allows the fleet to finish on a windward leg and usually makes for easier recording of finishing places on the committee vessel.

Another variation is to run the sausage legs before the triangle legs – this does keep the fleet compressed for tighter racing.

Trapezoid Course

The trapezoid is two windward-leeward courses parallel to each other. It is designed to accommodate two different classes, or flights of the same class on the same course, using the same start and finish lines without interfering with each other. The reaching leg between marks 1 and 2 is a 'spacer' between the Inner and Outer Loops. It is usually ⅔ of the length of the windward legs. The trapezoid requires a greater area of water than the other courses.



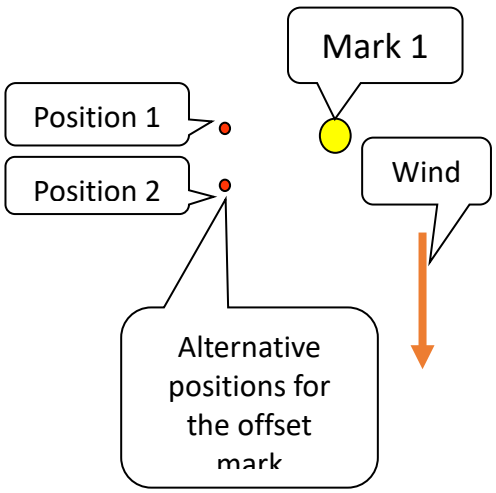
It is the most difficult course to set and adjust to a new wind after the race has started. Getting the course length correct, particularly when there are two classes with different boat speeds, is essential, otherwise a faster class can quite easily catch up the slower class.

Another disadvantage of this type of course is that there are times when the wind on the inner loop and the wind on the outer loop differs in strength and/or direction.

Gates are usual at marks 3 and 4. An offset mark is sometimes used at the windward end of the inner loop but this is not usually necessary on the outer loop (as the boats will have already sailed two beats, a run and a reach before reaching this point with separation already achieved). The most usual position for the start line is immediately downwind of mark 4 – 0.05Nm (100 metres) is sufficient distance. The finishing line is usually set on a reach from mark 3 to the finish. Alternatively, the finish can be behind the starting CV either reaching across the stern or by rounding a Mark 5 to leeward of the CV and finishing upwind.

The Offset Mark

Also known as the 'Hitch' mark or the 'Spacer' mark. This is a mark (mark 1A) which is usually set 40 metres on the port side of the windward mark (mark 1). It is designed to take the fleet away from mark 1 before the boats set off on the run and hoist spinnakers and prevent them running into port tack boats approaching mark 1.



The location in terms of distance and angle from mark 1 are very class specific and the advice of the class should be sought. The mark is usually smaller than mark 1, a dan buoy is frequently used. However, if both Mark 1 and the offset mark are the same size and shape, then a quick adjustment of the downwind leg can be made by moving one of the marks only.

I3 Course Size and Length

Classes have become much more intent on having races of a particular length. The class representative will have this information. It is quite normal for a RO to be told that the class would like the race to be windward leeward, two rounds and last 50 minutes.

To make this happen we need to know the boat speed for that class in different wind speeds. For dinghy classes this information is available for the Olympic Classes and for the common Junior and Youth Classes. These speed tables are available on the RYA website. Sample for ILCA 7 below:

ILCA 7 **TRAPEZOID COURSE**

Target Time **50 minutes**

Wind Range	5 - 8 Knots					8 - 12 Knots					12 - 15 Knots					15+ Knots				
Upwind Speed	19 mins/mile			Up Time (mins)	Down Time (mins)	17 mins/mile			Up Time (mins)	Down Time (mins)	16 mins/mile			Up Time (mins)	Down Time (mins)	17 mins/mile			Up Time (mins)	Down Time (mins)
Run Speed	16 mins/mile					12 mins/mile					9 mins/mile					7 mins/mile				
Reach Speed	15 mins/mile					10 mins/mile					6 mins/mile					6 mins/mile				
Leg Length Nautical Miles	O2 / I2	O3 / I3	O4 / I4			O2 / I2	O3 / I3	O4 / I4			O2 / I2	O3 / I3	O4 / I4			O2 / I2	O3 / I3	O4 / I4		
0.3	26.0	36.5	47.0	5.7	4.8	20.7	29.4	38.1	5.1	3.6	17.1	24.6	32.1	4.8	2.7	16.0	23.1	30.1	5.0	2.1
0.4	34.0	48.0	62.0	7.6	6.4	27.1	38.7	50.3	6.8	4.8	22.5	32.5	42.5	6.4	3.6	21.1	30.5	39.9	6.6	2.8
0.5	42.0	59.5	77.0	9.5	8.0	33.6	48.1	62.6	8.5	6.0	27.9	40.4	52.9	8.0	4.5	26.1	37.9	49.6	8.3	3.5
0.6	49.9	70.9	91.9	11.4	9.6	40.0	57.4	74.8	10.2	7.2	33.3	48.3	63.3	9.6	5.4	31.2	45.3	59.4	9.9	4.2
0.7	57.9	82.4	106.9	13.3	11.2	46.4	66.7	87.0	11.9	8.4	38.7	56.2	73.7	11.2	6.3	36.3	52.7	69.2	11.6	4.9
0.8	65.8	93.8	121.8	15.2	12.8	52.8	76.0	99.2	13.6	9.6	44.1	64.1	84.1	12.8	7.2	41.3	60.1	78.9	13.2	5.6
0.9	73.8	105.3	136.8	17.1	14.4	59.3	85.4	111.5	15.3	10.8	49.5	72.0	94.5	14.4	8.1	46.4	67.5	88.7	14.9	6.3
1.0	81.7	116.7	151.7	19.0	16.0	65.7	94.7	123.7	17.0	12.0	54.9	79.9	104.9	16.0	9.0	51.5	75.0	98.5	16.5	7.0
1.1	89.7	128.2	166.7	20.9	17.6	72.1	104.0	135.9	18.7	13.2	60.3	87.8	115.3	17.6	9.9	56.5	82.4	108.2	18.2	7.7
1.2	97.7	139.7	181.7	22.8	19.2	78.5	113.3	148.1	20.4	14.4	65.7	95.7	125.7	19.2	10.8	61.6	89.8	118.0	19.8	8.4

The tables are broken up into four wind speed bands and have the speed of the boat beating, reaching and running. To work out a course length first select the wind speed band say 13 knots. Then select the course type say O2. Work down the O2 column until you come to a time in minutes near to your target time. In this case it is 49.5 minutes. Look across to the first column and find the figure of 0.9 Nm. This is this the length of windward legs and everything else follows from this.

Remember when using the charts that they are only a guide. Local conditions can have an impact on the actual race duration. The main factors that can affect race duration are tide and wave action, especially for shorter and slower boats. For example, the upwind VMG in light winds is relatively low and so a tidal current of 1 knot can significantly decrease the speed made good.

Using the charts for different classes

Although the published Speed Charts are for a limited number of classes, charts for other classes may be easily created using an adjustment based upon published Portsmouth Yardstick Numbers. Any such chart should be able to provide an indication of course size to within 5% under most wind conditions.

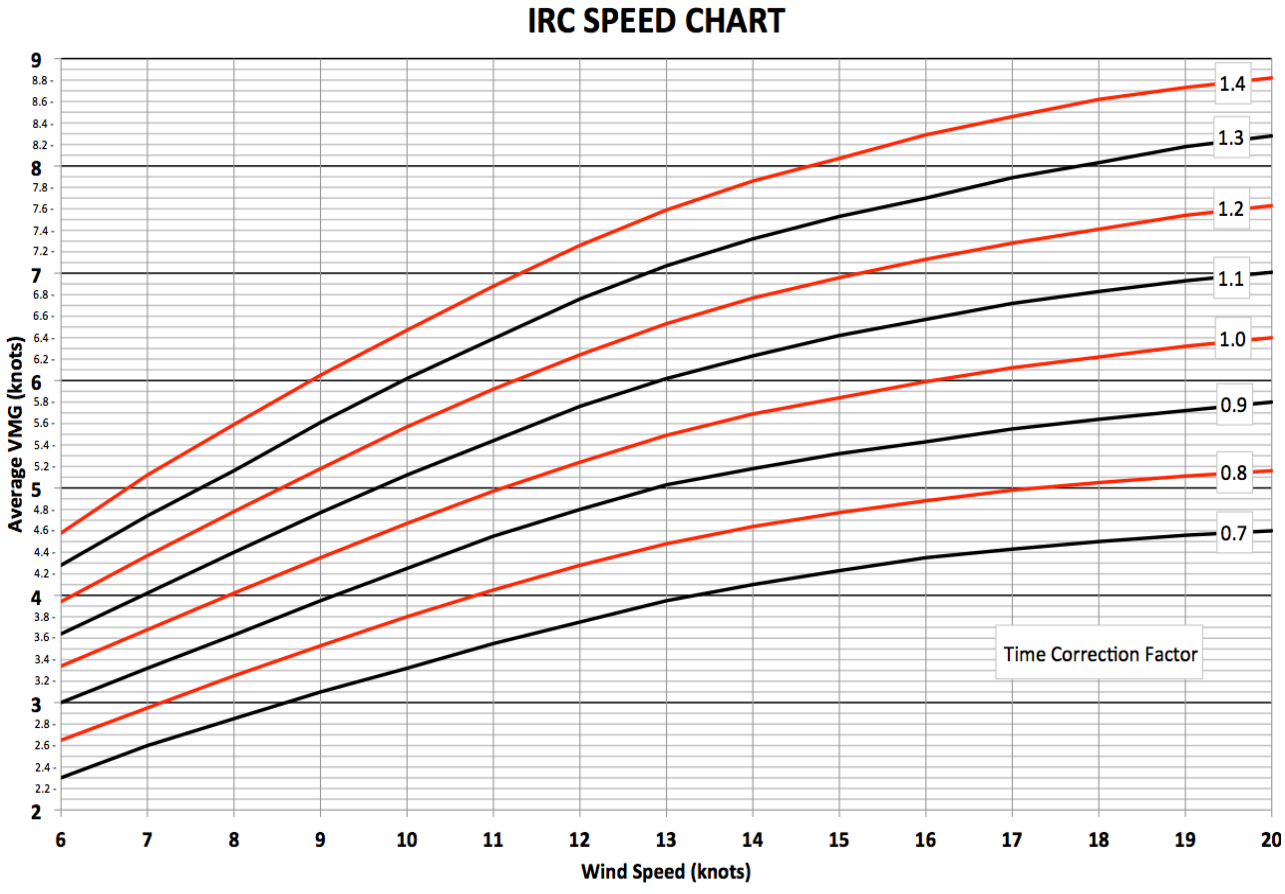
It is important to pick a boat similar in type to the new boat. You can then use the formula to adjust the wind speeds for each wind range:

New Speed = Published Speed x (PN of New boat)/(PN of published boat)

This can be plugged into the tables to create a new chart. You can create your own charts by examining the formulae in the speed table spreadsheets.

Speed Tables for Cruiser Racers

For cruiser racers racing under the IRC rules a speed chart has been produced to give VMG for a given wind strength and Time Correction Coefficient (TCC).



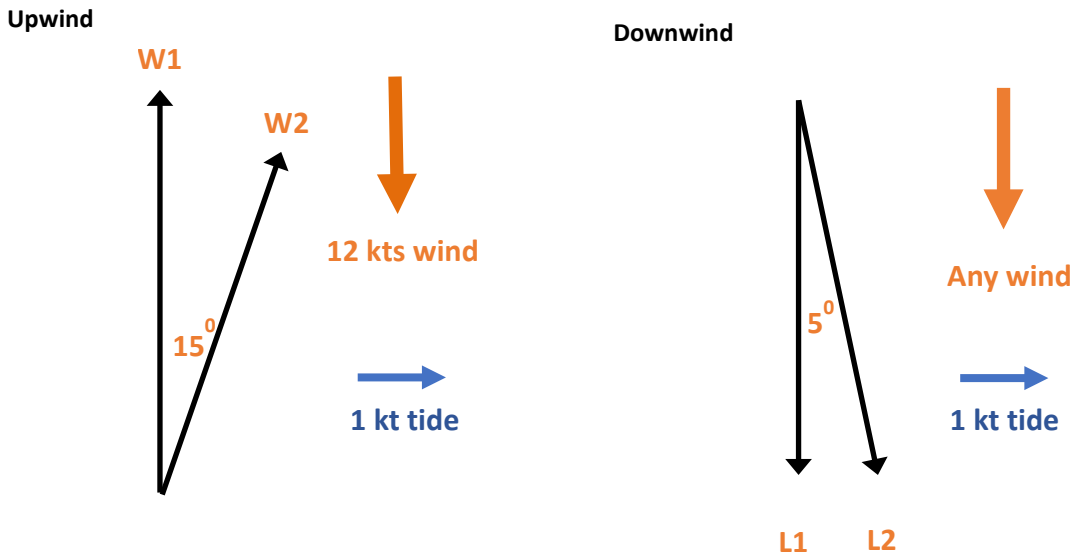
To work out the course length for, say, a boat with a TCC of 1.100 and a wind speed of 12 knots and target time of 90 minutes.
Follow up the 12 knot wind line until it hits the TCC 1.1 line. VMG = 5.75 knots. This is the average VMG over the whole course so to calculate the course length for a 90 min course:
5.75 x 90/60 = 8.625 Nm. If the course is to be a windward leeward of two laps then there are a total of four legs and the beat length is: 8.625 / 4 = 2.16 Nm.

I4 Tidal Compensation

Fortunately, many venues do not have a problem with tide. However, it is essential that ROs understand the issues created by tidal currents within the course area.

The guidance offered here is very much a rough guide, a 'rule of thumb', to adjusting the course to compensate for a tidal current. The reason why it is only a rough guide is that no two venues, or days, are the same.

Sometimes the start can be in an area with very little current, but the windward mark may be exactly the opposite with anything up to 4 or 5 knots of current. In some areas trying to work out the compensation is extremely difficult.



For winds of 10 knots or more with a 1 knot tide at 90° to the wind, set the windward mark **down tide** by approximately 15°.

With winds of 8 knots or less then the offset should be 20° or more. As far as the leeward mark is concerned, the offset for all winds is approximately 5°. For tides diagonal to the wind, halve the allowance and for tide of 2 knots double the offset.

I5 Assessing the Tide and the 'Sailing Wind'

There are methods to assess the tide which influences the 'Ground Wind' and produces the 'Sailing Wind'. Ground Wind is that experienced by an object that is fixed to the earth, such as an anchored committee vessel. Sailing Wind is the wind experienced by a free-floating object or boat. Apart from 'guesstimating' the sailing wind it can be more accurately assessed by:

- The wind as measured by a RIB that is completely stationary in the water (engine off) but floating with the tide.

- Observe boats sailing close hauled upwind of the start line and assess the wind angle they sail in - they are sailing to the sailing wind. This is a method that requires experience and practice.

I6 Tidal Compensation – Compromise

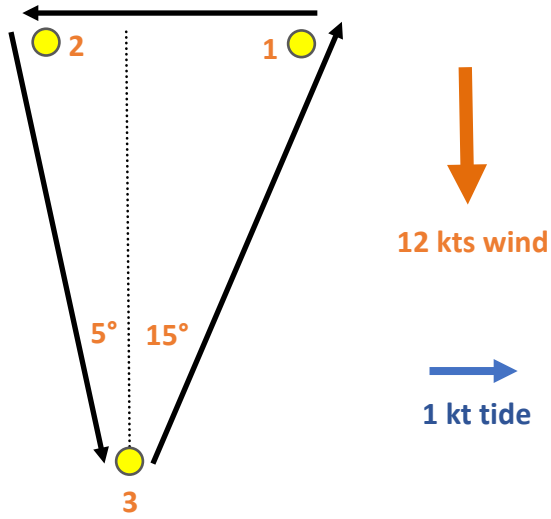
When you only have a windward-leeward course – set up on the sailing wind. The course will be equally skewed upwind and down.

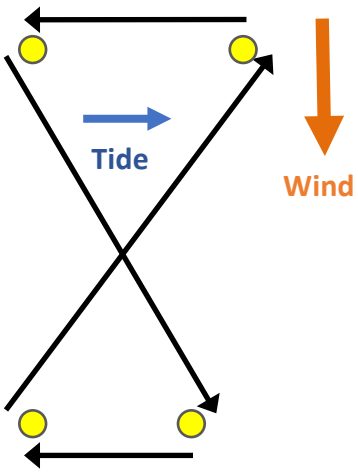
Tidal Compensation – Solutions

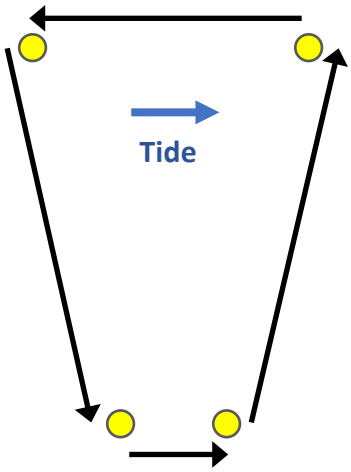
By using a third mark on a windward/leeward course (i.e. including an offset mark) an increase in the distance between the windward mark and the offset mark will result in a perfect beat and a perfect run.

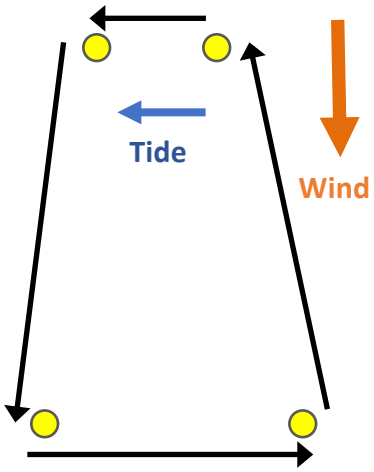
The leg between the windward mark and the offset mark in this situation may be referred to as a 'tidal correction leg'. The limitation of this manoeuvre is that it will only work if the tide is flowing from left to right across the course.

When in the opposite direction, starboard roundings at the marks are required. This is unpopular with some classes.



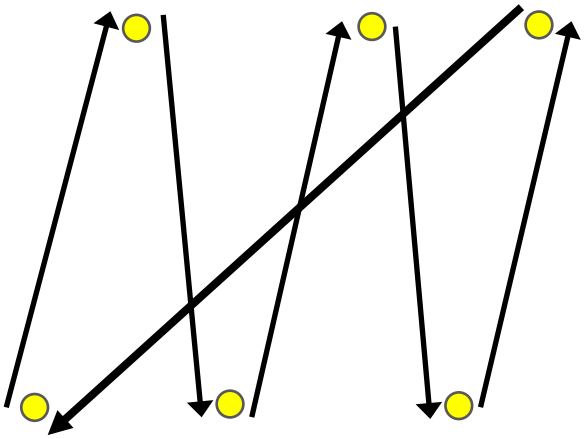






When more marks are available the X course could be used or the rectangular course. In this latter case the course diagram is the same and the lengths of the top and bottom legs are adjusted to suit the tidal conditions.

When the course is set over a very large area as is often the case in cruiser racer racing, a further technique can be used, often referred to as a 'Tidal Cascade'. Note that all the upwind legs are parallel to each other as are the downwind legs. The downwind legs have the appropriate tidal offset as do the upwind legs.



When using laid marks rather than fixed or permanent special marks, this course requires an extremely skilful mark laying team. One advantage is that each mark can be laid just before the fleet arrive at the previous mark. This will allow the RO to calculate the tidal strength and the wind strength accurately for each leg of the course.

If the boats need to be returned to the area of the start for finishing or to have a second lap, a tidal correction leg has to be used again. Rather than use a white sail reach for the tidal correction leg as above, a downwind (shy spinnaker reach) can often provide the competitors with more technical challenges and exhilarating sailing (as well as simply having to decide whether or not to fly the spinnaker).

I7 Course Description

In cruiser racer racing the course is often announced on VHF radio. Course boards are commonplace in that type of racing and the norm in dinghy and board racing. It is important to describe courses in SIs in the same way everywhere to avoid confusion.

The letter indicates the type of course - I for trapezoid inner loop; O for trapezoid outer loop; L for windward/leeward with the finish at the leeward end of the course.

If a suffix A is used after the initial letter, then an offset mark, 1A, is part of the course. LA is a windward/leeward with an offset mark at Mark 1 and a finish at the leeward end of the course.

If S is the suffix then a slalom is used at the leeward end of the course prior to the finish.

The number next to the letter indicates the total number of beats to complete.

If the finish is to be a downwind, offset finish, i.e. pass through the gate and then dog leg either right or left, then we add on R for a turn to port and finish or G for a turn to starboard and finish.

The current convention is to number the marks in the same way, whatever the course, as it is in the case of a trapezoid course. On a W/L course the windward mark is mark 1 and the leeward mark is mark 4.

J COURSE CONSIDERATIONS FOR CRUISER RACERS

J1 Location

The course location should be selected to give as fair conditions as possible within the locality having regard for tidal currents, vagaries of wind caused by headlands and buildings, and shallows. However, it is commonplace in cruiser racer racing to introduce challenges of navigation and varying tide in which case this approach does not hold.

The IRC has published guidelines for managing racing for handicap cruiser racer fleets. There has been much discussion in recent years concerning the dominance of windward-leeward courses.

The IRC Technical Committee considers that if all races were windward-leeward, designers would inevitably optimise designs for this style of racing, e.g. heavy, narrow designs with poor reaching performance. Noting also that a balance of course types is a fundamental part of fair yacht racing, it is strongly recommended that Race Committees should set a variety of courses. Some of the issues that a Race Committee might then consider are:

Course Type

Courses without a downwind leg and with only reaching legs will inevitably favour bowsprit rigged boats and lighter boats generally. Conversely, all downwind legs will favour boats with conventional spinnaker poles and the heavier boats. Including both types of course will give everybody a chance on their day, but over a series, a balanced range of courses should be provided wherever possible.

Current

Upwind legs against a tidal current will tend to favour faster, more windward-oriented designs and vice versa. As an extreme example, an all downwind, down current course will almost inevitably produce a winner from the small, slow end of the fleet. When possible, selecting courses to minimise these effects will produce more equitable results generally. A second issue with tidal current is that boats will inevitably try to minimise (or maximise as appropriate) current effects. This becomes particularly relevant when there are current gradients across a course and boats are trying to get out of a foul current. Unless the shoreline is very steep-to, the smaller (shallower draft) boats will be able to do this more effectively.

In these circumstances, it can be worth considering either moving the whole course away from the shore so that everybody is in the full current all the time or including a series of passing marks to force boats into the current.

Weather Conditions

No Race Committee can influence the weather! They can however influence where the course is positioned. If it is particularly rough, larger heavier boats will be favoured upwind. If a series features a number of heavy air races, it might if possible be worth considering a less exposed course area for some races, if this is a possibility. Similarly, very constricted course areas (narrow channels for instance), particularly in light airs, will favour the lighter and more nimble boats in the fleet.

When racing is to take place around fixed harbour buoys or landmarks, as in cruiser racer racing, the positions of starting and finishing lines may vary depending on the wind direction.

Some clubs have a designated race area with the result that the Club's RO will always set his course in the same area.

In enclosed waters, the course shape will reveal how much flexibility the RO has in placing its position with regard to the wind direction. It may also indicate to them that a starboard hand

course is necessary, although a port hand course is always preferred to avoid issues at the windward mark. In open water, the procedure is simpler.

The use of GPS has simplified the laying of marks. However, care must be taken when transmitting GPS data on the radio.

J2 Course Geometry

In the past, courses used to provide a combination of beating, reaching and running - each leg testing particular tactical and boat handling skills. Recent developments have shown a preference by many classes for windward-leeward courses removing the long reaching legs where passing opportunities are difficult to find. Exceptions are long-distance passage races, where often changes in weather provide the variations desired.

Some courses have no regular geometry. Race committees often use harbour beacons and other permanent 'special racing marks' as a convenience and some races use geographical features such as islands.

Before deciding on the course geometry, the RO and the Race Committee should liaise very closely with the Class Association. The officials of the Class will be more familiar with the characteristics of the boat and what type of course geometry is most suitable for their event.

A good RO will not impose his will on the class but should be able to advise them of the effect course selection will have on efficient race management. Knowledge of local conditions which can have an adverse effect on the efficient running of the event should be brought to the attention of the class association at an early stage of the planning.

Whatever the course configuration, convention and common sense should play a part in the course selection. Courses should be consistent and not complicated. Port-hand roundings are preferred at a windward mark because the right-of-way boat does not have to tack at the mark. Therefore, for many events where there are no geographical constraints, a port hand course is always used (except in match racing, where the organisers look for maximum tactical complexity, and therefore prescribe starboard roundings). Looping around marks must be avoided.

On a beat a fleet tends to spread out - the leading boats have clear air and less interference from other boats. On a run the leading boats may be blanketed and the fleet closes up. Because of this and because an upwind start is the fairest, a race should start with a beat or have a beating leg as soon as possible after the start.

The selection of the type of course to be used for an event, and indeed for a particular race within a series, will depend upon such factors as the area of water available, the anticipated wind strength and the speed of the competing boats around the course.

J3 Round the Cans

Commonly used for cruiser racers these courses attempt to emulate the laid courses above but using fixed marks. More varied racing can be provided with no additional resource requirement. Clearly the course will be constrained by the available positions of marks. Laid marks are commonly used in addition to the fixed marks so as to minimise this constraint.

A good course will not include too much reaching for handicap racing as this will give an advantage to those boats with the longer waterline length.

J4 Coastal Courses

These courses often provide a challenge to both to sailors and the Race Team. Issues such as tide times and tidal gates can become important and calculating when boats with different speeds might arrive at certain points on the course in the prevailing wind conditions is essential. Having access to good charts and tidal information is necessary.

Further guidance on Race Management for IRC Classes is available here: https://ircrating.org/irc-racing/race-management/

K LAYING THE COURSE

K1 Laying Marks

The Windward Leg

The quickest method of laying the windward mark:

- Mark Layer One comes alongside the anchored committee vessel and 'pings' it with its GPS i.e. enters the CV position in the GPS. (We can use the port hand gate mark instead of CV)
- RO gives the Mark Layer the length for the first beat and a wind angle (Course Axis)
- The Mark Layer then proceeds on a compass bearing to windward until the distance is reached and the bearing to the CV is the reciprocal of the Course Axis.
- Mark Layer holds station until requested by the RO to lay the mark.
- Mark Layer feeds information on Wind Direction and strength back to the RO.

Once the current mean wind has been established, the RO has to decide which way the wind is likely to move during the period when racing is to take place. This is one of the first judgments that the RO makes. Local knowledge of the micro-climate of the race area is an essential element in making this judgement. This is particularly difficult if the RO is not a local person. Having someone with good local knowledge on the committee vessel is essential.

Laying the Start Line

Normally we would lay the start line at ninety degrees to the sailing wind. It is most important to lay the start line as accurately as possible in the current conditions. A poorly laid line which favours one end or the other will result in the fleet bunching at the favoured end. This can lead to large numbers of boats OCS and general recalls. The easiest way to lay a start mark accurately is to stream it into place.

Streaming the Start Mark

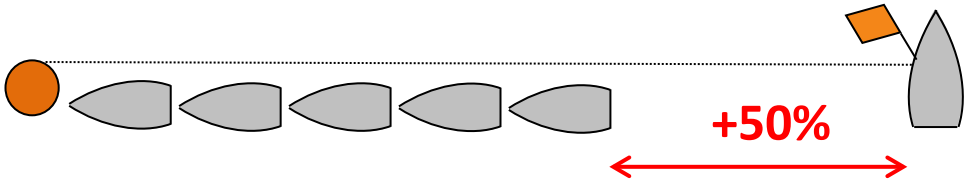
The vessel laying the start mark leaves the CV on the bearing of the start line, motoring slowly out until the desired start line length is reached. This is best checked using a laser range finder. When at the length the RO will give the command 'Turn' and the mark layer will immediately turn ninety degrees left (dead downwind). They should proceed downwind for a few boat lengths and then turn left one hundred and eighty degrees and motor slowly to windward streaming the mark. By this we mean put the mark in the water and pay out all the line until only the anchor is still in the boat. The RO will sight this as the mark vessel motors to windward towing the mark, until the Mark reaches the correct position (usually checked with a hand bearing compass or shore transit) and the command 'Drop, Drop, Drop' is given. The anchor is immediately dropped overboard and the mark will be in the desired position.

Attempting to lay a start line in a cross tide can be more tricky. Check the angle that the Committee Vessel is lying and when streaming the mark, the mark vessel should motor on a course parallel to the lay of the committee vessel.

K2 The Start Line

Start Line Length

The recommended length is the total length of all the boats entered multiplied by a factor. 1.5 is common. i.e. add 50%. World Sailing recommend a multiplier between 1.2 and 1.5.



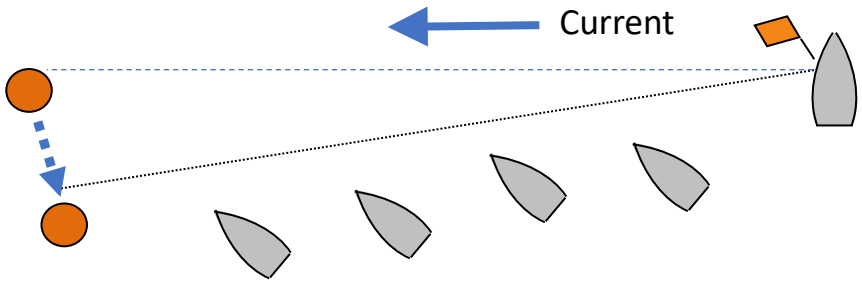
Various factors which may change the multiplier include:

- Size and manoeuvrability of the boats
- Type of boat
- Boat width (Catamarans and Skiffs)
- Sea state
- Current
- Wind strength

For slow, highly manoeuvrable boats a smaller value may be used e.g. 1.2 but for wider boats a larger number such as 2 or higher might be necessary.

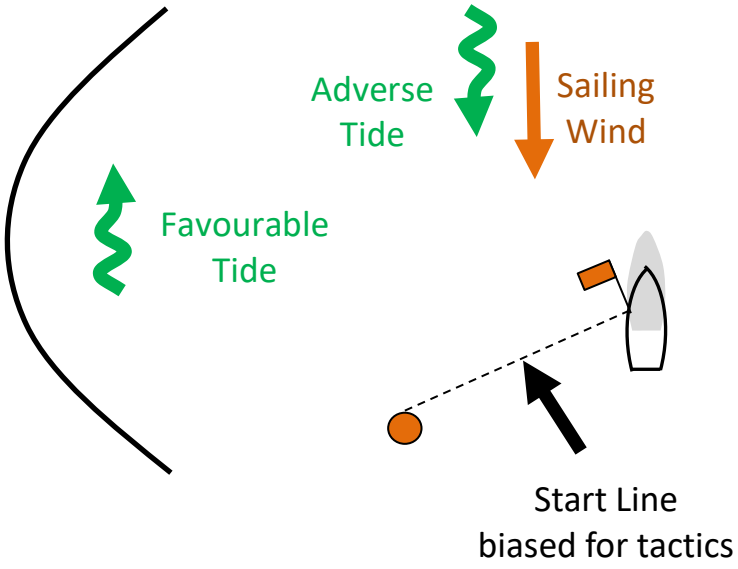
Start Line Bias for Tide

When there is a current running parallel with the start line it will push boats to one end or the other. If the current is pushing the boats to the pin end, the pin end is moved downwind by a small amount to align it at ninety degrees to the sailing wind and enable boats to clear the pin end easily. This is starboard bias. The converse happens when the current is in the opposite direction



Start Line Biased for Tactics

When one side of the course is favoured by the fleet, using bias will help spread the boats along the line. Reasons for one side of the course to be favoured include unbalanced tides and wind angle and/or wind speed variations across the course area. Failure to recognise this by setting a start line at right angles ninety degrees to the sailing wind seen at this location will result in the fleet all trying to start from the pin end and probably causing a general recall.



Start Line
biased for tactics

Whatever happens, the line must be fixed by the preparatory signal. No further adjustments may be made after this signal is displayed. Ideally it should be fixed well before this to allow the competitors time to establish transits or set up their electronics.

As with all start lines, regardless of the tidal influences and tactical wishes of the competitors, the aim is to achieve a balance of boats spread along the entire length of the line. The RO may believe that they have set a perfect line and taken all issues into consideration, but it is the perception of the sailors that is important - if they are all bunched at one end then the line is not right and will need to be adjusted to encourage the fleet to spread out down the line.

K3 Course Laying Aids

Laying Trapezoid Courses

These are the most difficult to lay and there are a number of methods of doing this. In most cases the course is laid out by laying marks a particular distance from and bearing to a reference point. The reference point is usually the port hand gate mark and in some smaller events could be the CV. There are various mark laying tools that we can use to give us the correct distance and bearing including bearing and distance tables. GPS is essential to getting a Trapezoid course right.

TRAPEZOID COURSE MARK BEARINGS - 60° Angles – Only part of table shown

Windward	Leeward	Mark 1-2 Mark 4-3	Mark 2-1 Mark 3-4	Mark 3-5	Mark 5-3
000	180	240	060	120	300
010	190	250	070	130	310
020	200	260	080	140	320
030	210	270	090	150	330
040	220	280	100	160	340
050	230	290	110	170	350
060	240	300	120	180	000
070	250	310	130	190	010
080	260	320	140	200	020
090	270	330	150	210	030

Gate Marks

Why Gates? They give the competitor a choice as to which side of the beat to use, plus for bigger fleets, they reduce the crowding and therefore incidents at the leeward mark.

The width of the gate will depend to a certain extent on the size of the boats, their speed and the sea conditions. The zone is three boat lengths so the minimum width should be seven boat lengths, thus allowing one boat length between each of the three boat length zones round each mark. The normal recommendation is to make the gate between 8 and 10 boat lengths wide but this may be increased if boats are travelling very fast when they arrive at the gate or there is a good chance of a boat capsizing at the gate.

The gate should see a fifty-fifty split in the fleet rounding either mark. This is achieved by setting the gate at right angles to the sailing wind. As for the start line, tactical or tidal factors might also be considered.

Pin end Vessel instead of Buoy

At major events, or when a long line is required the Pin End Starting Mark should be an anchored vessel, not a buoy. This also means that the start line can be adjusted from either end by paying out additional line.

It is preferable to have a tall starting mast in this pin end vessel. This will make the job of the Race Officer, sighting the line easier. This mast should be set well forward in the vessel to reduce the chances of a boat starting correctly and then being fouled on the bow of the pin end vessel or its anchor line. The anchor line should be weighted down to avoid boats tripping up on it.

The orange flag on the starting mast of the pin end vessel should be displayed and removed at the same time as that on the main committee vessel.

L BEFORE RACING

L1 Plan for the Day

Race day has arrived and to make sure of a smooth running event it helps to have a plan. We must make everyone on the race management team aware of the plan and the timetable involved. It is a great help to issue a Daily Timetable of what happens and where.

Event Timetable

Time	Item	Where	Who
0830	Race Officers Conference	Committee Room 1	Organising Secretary, Deputy RO, Assistant RO, Safety Officer, Mark Layers, PC Chair
0845	Safety Briefing	Committee Room 2	RO, Safety Officer, Course Safety Leaders, Patrol vessel crews
0900	Competitor Briefing	Main Marquee	Organising Secretary, RO, PC Chair
0915	Race Committee go afloat	CV on Pontoon B	
0930	Start Wind Checks		
1030	Commence laying the course		
1100	START		

Ensure that the team are aware of the need for punctuality and your daily timetable, the requirements and timings of which will vary considerably from venue to venue. For example, the timings required for an event run from a marina with all its facilities and a beach launched venue can vary tremendously. The deadline is the start of the race and the whole timetable has to be arranged so that this deadline can be met without undue pressure on the Race Committee.

A postponement because the Race Committee is not ready is not acceptable!

Be clear what your parameters are for the conditions to be suitable to go racing. It is the extremities that create most problems. Is there enough wind? Is there too much wind?

As far as possible decide beforehand, in consultation with the Class representative what the upper and lower limits are for wind strength. Some classes have their own parameters e.g. ILCA 7s like at least five knots of breeze to race. The type of boat, the age and fitness of the competitors will have a bearing on the answers to these questions.

Be very clear as to who does what in your race management team. Once delegated, let them get on with the job and only step in if you see a major error about to occur.

Operating away from home

Operating at a venue outside of your own club brings more challenges. The RO, appointed to an event at a venue they have not used before, has several factors to be aware of:

- There may be someone at that club who feels that they should have been appointed as the RO. Therefore, the first skill required is one of diplomacy and team building.

- The visiting RO will not have the local knowledge that is useful to make a success of most events.
- The race management team will not be aware of the skill level or the working method of the incoming RO.
- The visiting RO will need to adapt their working method to suit the skill level of the local race management team while also gaining as much information about the local conditions as possible.

If at all possible, try to arrange a visit to the venue prior to the event. Meet the people that you will be working with and start to build a rapport. Ask them to take you on the water and share their knowledge of the race area. This will expand your knowledge of the venue and make them feel valued. There is enough to do on the first day of an event without having to form new relationships at the same time.

Consistency

The RO must make every effort to work consistently during the whole regatta or series. Once you become predictable, as far as the fleet are concerned, the management will become easier and the sailors are less likely to become frustrated.

The following issues should be taken into consideration:

- When races are delayed
- OCS vs General Recall
- Starting penalties
- Length of starting line and finishing line
- Course configuration and procedures for setting the course

L2 Briefings, Briefings, Briefings

At any event the RO should have a briefing with their team.

In multi course events the PRO should have a pre-event meeting with the ROs, and their deputies, to discuss the logistics of the event, responsibilities and the lines of communication between all those concerned.

Each Course RO should then have a team meeting with their race officials to confirm each person's responsibilities and answer any of their questions. This meeting should cover all aspects of the event, the policies to be followed and the procedures involved. The aim is for each person to clearly know their own role and who is responsible for all required duties. At this meeting emphasis on timekeeping is essential - it only requires one person to be late and the whole timetable can be delayed. This is unacceptable.

It can be very helpful to make lists of the topics that could be covered at each briefing and then tailor it to the particular event.

Event Team Briefing

Usually the first briefing of the day and should cover:

- Weather Forecast
- Today's weather
- Tomorrow's weather
- Plan for the day
- Shipping or other issues?
- Lessons from yesterday
- Changes to SIs?
- Changes in personnel?
- Daily risk assessment

Who should attend: Chair Organising Committee, PRO, Chair Race Committee (if not PRO), CROs, Chair Protest Committee/Jury, Chair Technical Committee, Event Safety Officer, Beachmaster,

Race Office Supervisor. For large events may also include Harbourmaster, Meteorological Consultant, Media Team Leader.

Race Team Briefing

Longer Time required on the first day of an event, then a brief meeting on subsequent days and should cover:

- Time to go afloat
- Punctuality
- Role of each team member
- Procedures
- Policies
- Criteria for starting a race
- Course laying methods
- Rule observance - competitors
- Role of the Safety Officer
- Radio procedures
- Refreshments
- Daily briefing and debrief

Who should attend: CRO, DRO, ARO, CV Team, Mark layers, Course Safety Leader.

Safety Briefing

Should be run by the Event Safety Officer.

- Local hazards
- Competitor age & ability
- Communications on the water
- Intervention & outside help
- Tally system
- Capsize procedures
- Injuries
- Unmanned boats
- Launch time
- Pattern of patrol
- Mothership
- Return
- Standing down
- Fog & wipe-outs
- Refreshments
- Daily briefing and debrief

Who should attend: ESO, CROs, CSLs, Patrol vessel crews, Medic.

Competitors' Briefing

A competitors' briefing, particularly with reference to local conditions of wind and tide, can neutralise the advantage gained by local competitors. The briefing usually precedes the practice race or the first race and may be undertaken either by the Event Director or by the PRO/RO. Subjects which may be covered include:

- A friendly word of welcome (if there has not been a formal opening ceremony)
- An introduction to key officials: PRO, CROs, PC Chair etc.
- Identification of main shore locations - Race Office, Protest Room, etc.
- Location of the Official Notice Board
- Identification of committee vessels, marks, etc.
- Weather
- Hazards and prohibited areas
- The course area and the time taken to sail to the race area from the marina or beach
- Food arrangements
- Social arrangements
- Prize giving
- Specific rules of the host club.
- An outline of the Race Management policies likely to be used by the Race Committee

The meeting has no authority in terms of the rules and the SIs. There is a responsibility upon the official conducting the briefing to exercise great caution not to mislead - the same can be said of 'Competitors Notes' often used in cruiser racer racing.

Good practice requires a competitor with a query on the SIs to present the question in writing. The signed written answer is then placed upon the official notice board. This approach allows

everyone to read the question and the answer. Often, people will approach you with questions after the briefing. Without being rude it is better to avoid answering these questions for fear of giving them additional help or accidentally misleading them.

Take care not to fall into the trap of saying something that could be misinterpreted. Do NOT make oral changes to the SIs. See Rule 90.2(c).

Avoid giving grounds for a 'request for redress'. Be confident and project your voice!

Briefing for Cruiser Racers

A briefing for Cruiser Racer racing with competitors is not common in some areas and is often replaced by 'notes to competitors'. These should cover the same issues as would be covered at a competitors' briefing. For many smaller regattas of any type, briefings are not always considered necessary. However, a meeting can be very helpful in building up contact between the RO and the competitors. A briefing is sometimes the one occasion when the competitors can put a face to the RO.

L3 Decision to Race

If it is possible to race with the wind available at the time, then racing should commence. It is unfair to some competitors to wait for 'better' conditions. Most boats can sail well enough to race in four knots of wind and start to get into trouble in winds of twenty five knots or more. There are, of course, exceptions to this. Tide and current will influence bottom end wind speeds in that, in strong currents a higher wind speed is necessary to achieve fair racing.

In general, it is not considered to be best practice to run racing ahead of schedule as, for instance, heavy wind sailors may be disadvantaged if the forecast for the next day is for stronger winds. However, if the forecast is so bad that it is unlikely that there will be any racing on the next day then we should consider adding an extra race on the first day. This does require a SI to allow changes to the schedule.

There is also the consideration of the number of races required to make an event. As the weather has become more volatile over the years and the chances of either a blown out day or a no wind day has increased, the number of races to validate the event should be realistic.

Windsurfers often have guidelines on how many races can be sailed back to back and the time delay between races. Particularly in light winds, windsurfing is a tough sport requiring very high levels of fitness and endurance.

Don't be afraid to start in shifty conditions. This is part of racing and the sailors deal with it. Be aware, however, that if the course becomes unmanageable once started, abandonment or shortening course are tools to be used to ensure fairness.

M COMMUNICATING WITH COMPETITORS

M1 Communication

Apart from Competitors' Briefings and the Official Notice Board race management teams communicate with sailors by various means, both official and unofficial, as far as the SIs are concerned.

Official communication on the water is made predominantly by the use of signals and, in the case of many cruiser racers, VHF transmissions. Visual signals may be made using a flag or other object of similar appearance.

The 'signal', when given as a visual signal accompanied by a sound signal, is the most common method of communicating with competitors.

Only when the SIs describe the procedure involved can SIs be amended verbally when afloat.

Ashore, additional information can be given to sailors through a conventional public address system; afloat, through VHF or a loudhailer system from the main committee vessel. It is also becoming more commonplace for events to communicate with competitors through social media messaging services.

To communicate to the competitors how the Race Committee will respond in certain situations it may be helpful to publish, on the official notice board, their Race Management Policies. This would include items that are essential to the running of the event but not necessarily in the rule book. It should contain a list of procedures or processes. For example:

RMP 4.1 - Flag I will not be used.

RMP 4.2 - Flag U will be used for the first attempt at a start.

RMP 4.3 - In the event the start has been postponed, or a general recall has been caused by the length or angle of the starting line, the race management team will adjust the starting line and make another attempt using Flag U.

RMP 4.4 - If the race management team is satisfied that a general recall was not the result of the starting line setup, it will use the black flag for each subsequent attempt (including restarts if the race is abandoned).

Publishing a comprehensive policy document makes it easier for the competitors to understand what decisions are being made and why.

M2 Visual Signals

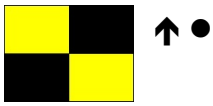
The word flag in this section is synonymous with an object of similar appearance. Rule 25.3 confirms that a Race Committee can either use a flag or an object of similar appearance.

The signal must be displayed on time. Two good options include: have the flags on bungee (rubber cord) and tensioned, so that when released they appear at the yardarm instantly or have the flags on sticks/poles when, even in heavy conditions, they can be handled by one person and be displayed quickly.

Competitors must be able to identify the flag displayed from a reasonable distance. World Sailing recommend 36ins x 24ins, 90cm x 60cm but in most cases 30ins x 20 or 24 ins will suffice. A flag is displayed when it first becomes conspicuously visible, not necessarily when it reaches the top of the hoist.

M3 Signals Made Ashore

Flag L has a specific meaning in the RRS Race Signals when displayed ashore with one sound - see Race Signals L: "A notice to competitors has been posted."



This is often an amendment to the SIs but does not have to be - it could be an official notice of another kind. It is common for L to be displayed over a numeral which indicates the number of the SI change or notice on a particular day but this is not written in to the RRS so the procedure would need to be described in the SIs if it is to be adopted

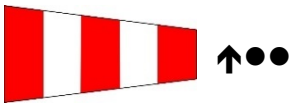
Flag 'L' is removed without a sound signal when the displayed notice has become effective. This is at the start of the scheduled race it affects. For amendments to the SIs, 'L' is removed at the Warning signal of the first race to which the change first applies.

Other Signals Ashore

Postponement and abandonment signals can be used ashore as per the Race Signals of the RRS. It is also common practice to include in the SIs 'Signals Made Ashore'.

In Race Signals it is stated that the warning signal will be made one minute after removal of AP. When it is desirable to allow more time for boats to leave the harbour, or beach, to reach the race area after a postponement, the following alternative SI is commonly used:

"When flag AP is displayed ashore, '1 minute' is replaced with 'not less than XX minutes' in the race signal AP. This changes AP in Race Signals".

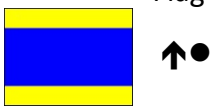


This then allows the timing between removal of AP and the warning signal to be increased.

Flag D

Flag D

With a sound means 'The warning signal will be made not less than YY minutes after flag D is displayed. Boats are requested/shall not to leave the harbour until this signal is made. Not in RRS this requires a SI.



Flag Y

It is also often desirable to tell competitors to wear personal buoyancy whilst afloat rather than just when racing in which case flag Y can be displayed ashore. See rule 40.2(b).

The majority of these signals are covered in the following sections according to their usage.

M4 Course Boards

Course boards and all other signals given as written information, such as lists of boats scored BFD after a general recall under a black flag, must be visible to the competitors from a reasonable distance away from the committee vessel. Take a photograph of what has been written for use at Redress Hearings.

M5 VHF

Radio operators must have a VHF licence and adhere to the regulations and procedures imposed by that licence. It is acceptable for such a person to delegate this role to another unlicensed individual, but this must be undertaken with supervision.

It is essential that, if this method of communication is to be used in race management at an event, the competitors are advised of this in the NoR and sometimes with a list of the channels required. The channel used is defined in the SIs.

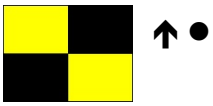
Race Committees must be aware that other committees may be racing in the same area and that cooperation will be advantageous, including low power transmission whenever possible. In order to avoid confusion, and in order to comply with the regulations of Ofcom, all transmissions must be preceded by the call sign of the committee concerned.

All transmissions should be clear and kept to a minimum. It is advisable to state clearly in the SIs when courses will be announced, use the phonetic alphabet for course abbreviations and do not talk unnecessarily. It is still possible to remain 'competitor-friendly' without blocking the airwaves with unnecessary chatter.

Finally, remember that communication by VHF is often most difficult when the conditions are difficult with strong winds. Techniques for abolishing wind noise are very important in these situations - face downwind, shield the microphone from wind and avoid shouting. Two layers of cling film wrapped around the microphone can help. Inserting a hand held VHF into a plastic bag will also help reduce wind noise, as do headsets.

This also applies to communication between members of the race management and safety teams in dinghy and board racing.

M6 Lima Afloat



Note: Flag L when displayed afloat has a different meaning to when displayed ashore: Come within hail or 'follow this vessel'.

This is a very useful signal to lead the fleet to a better area for racing or to enable the race officer to talk to the fleet. It is good practice to use this signal to draw the attention of the fleet to the fact that a new course is to be used when another has been used for the entire event beforehand. e.g. changing the course from a two-lap race to three laps, when simply changing the course displayed, whilst within the rules, may not be noticed by many.

In the case of a black flag start, boats that have been identified will have their sail numbers displayed on a blackboard or whiteboard. It would be good practice to display L flag with a sound signal to draw the attention of the fleet to the board.

N STARTING RACES

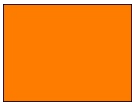
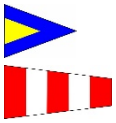
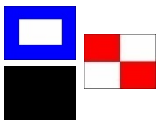
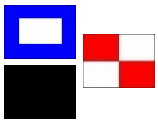
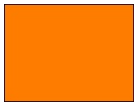
N1 The Start Line Team

- Race Officer
- Line Officer – DRO?
- Timekeeper
- Line Recorder
- Visual Signals Officer
- Sound Signals Officer
- Video Operator

This is the team for the main Committee Vessel – for bigger events it is essential to have a pin end vessel under the control of the ARO with a recorder.

Timekeeper

To help the Timekeeper keep track of the sequence it is sometimes helpful to use a Countdown Sheet. This is an example of one timekeeper's countdown sheet.

Countdown from Start	Actual Time	Display	Remove	Sound Signal	Notes
- 10 Mins				One Sound	
- 6 Mins				One Sound	
- 5 Mins Warning				One Sound	
-4 Mins Preparatory				One Sound	
- 1 Min				One Long Sound	
0 Min Start				One Sound	
+ 5 Mins				None	Omit if General Recall

The timekeeper should call the time to the next signal (not the start). Every 30 seconds then every ten seconds in the last thirty seconds to a signal. They should count down every second in the last ten seconds to a signal.

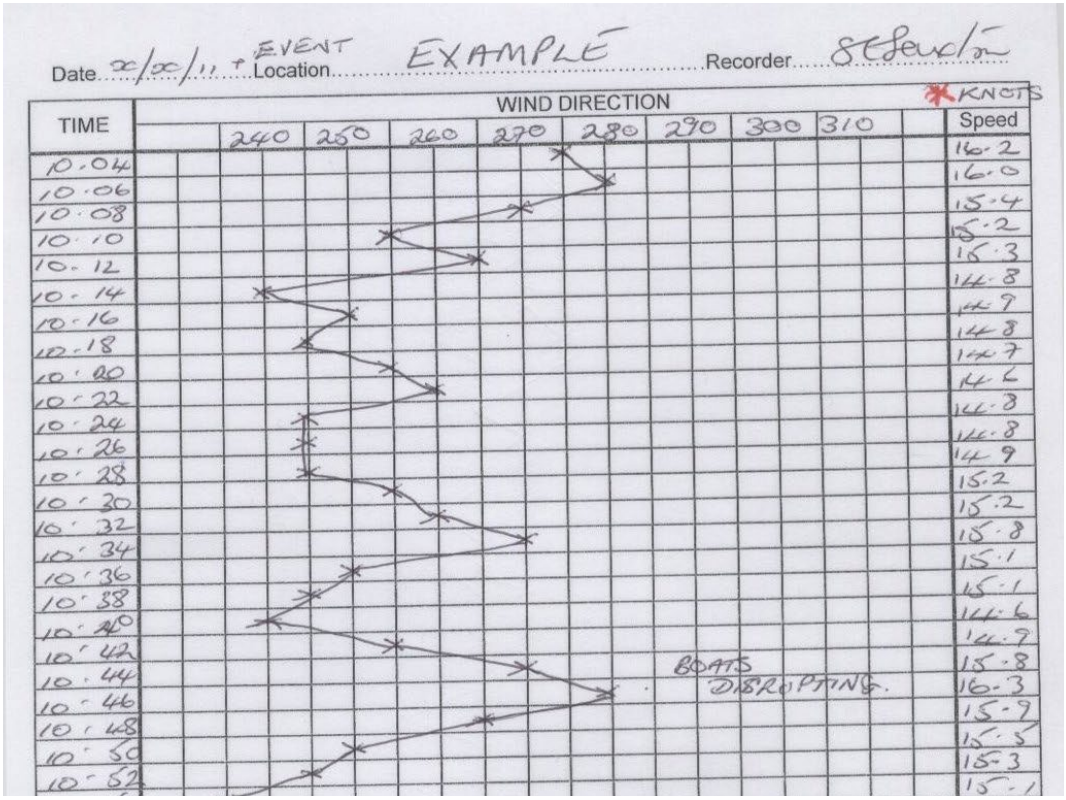
Timekeepers all have their own preference for watches/clocks. A radio controlled clock or a time App such as Emerald Time or one of the Atomic Time apps is useful, plus a countdown watch.

Wind Monitoring

Once the Committee Vessel is on station and anchored it is necessary to start a wind plot. This will be enormous help to the RO in deciding what the course axis should be.

Train an assistant and use a standard form. Record every 2 or 3 minutes right up to the start of the sequence. Record strength and direction. Record input from the mark layers if available – they are on different parts of the course and can give advanced warning of changes. Repeat before every start sequence.

An example of a Wind recording sheet:



N2 Starting Systems

Starting Sequence

The standard starting sequence is described in Rule 26. It is based on a 5 minute sequence commencing with the warning signal and ending with the Start of the race (5-4-1-Go). The preparatory signal incorporates different penalties, which can be applied, as required.

The time period between Warning and Preparatory signals can be extended. This does not need a rule change, a simple SI extending this period will suffice.

The Attention Signal

It is good practice to give competitors some warning that a new start sequence is about to begin. It is recommended that a SI is used as follows: “To alert boats that a race or sequence of races will begin soon, the orange starting line flag will be displayed with one sound at least five minutes before a warning signal is made.” Also need to be repeated on the pin end vessel if used.

For cruiser racer racing, this is an ideal time to announce the course on VHF.

N3 Actions before the start

No later than the Warning Signal

- Signal the course if not specified in the SIs
- Replace one course signal with another
- Flag Y – Rule 40.2(a) PFDs
- Flag O – Propulsion (Parts of Rule 42 do not apply)
- Flag R – Rule 42 reinstated – only if flag O used on a previous attempt to start this race

Signal the Course

There are many ways to let the competitors know which course they are to sail. For dinghy races it is normal to display the course on a course board on the side of the committee vessel. There are a number of standard course designations: The alphabetic characters denote the shape of the course and the numeral denotes the number of beats e.g. L3 is a windward leeward course with three beats and O2 is an Outer loop trapezoid course with two beats.

For cruiser racer racing 'round the cans' the course signal could be a series of letters designating marks to be rounded. Commonly nowadays a cruiser racer course will be announced over the VHF radio.

Whatever method is used, the course shall be signalled or otherwise designated at or before the warning signal.

Replace one course with another

The course displayed can be changed up to the warning signal. Once the warning signal has been displayed/announced the only way a RO can change the course is to postpone before the start or signal a General Recall or Abandon after the start.

Flag Y

If flag Y is to be displayed it shall be before or with the warning signal. Wearing personal floatation devices is required as per Rule 40.1. The signal is displayed with one sound.

Flag O

Some classes switch off certain parts of Rule 42 (Propulsion) above a particular wind speed. The wind speed at which this should be invoked is not in the RRS but is found in the class rules. It varies from class to class so always check the class rules. No sound signal but display with or before the warning signal.

Before the Preparatory Signal

The starting mark shall be in place by the preparatory signal. In practice it should be in position a lot earlier than this, but this rule does mean that it can be moved or tweaked right up to the preparatory signal. This may not be appreciated by the fleet who have now got to re-take their transits or reset their starting electronics so move it as early as feasible.

Before the Start

Other signals that can be used before the start include

Postpone – AP, AP over H, AP over A
Abandon – N over H, N over A

N4 When do the marks have to be laid?

Apart from the start line there is no requirement in the RRS to have any marks in place at the start of a race when P or I are the preparatory signals. It is good practice, however, to have at least the first mark laid at that time.

When Z, U or the black flag are used as the preparatory signals, in order to conform with Rules 30.2, 30.3 and 30.4 the first mark must be in place before the one minute (removal of preparatory) signal. There is no triangle if there is no first mark.

N5 Postponement Signals

This group of four signals can only be used before the start of a race but for any reason, including:

- No wind or insufficient wind to start the race.
- Shifting wind - it is not possible to set a course because the wind is moving round the compass.
- A major wind shift is expected later according to a known pattern or other information (e.g. sea breeze to establish).
- Too much wind - it is not safe for that particular class to sail.
- Race Committee not ready - a totally unacceptable reason but one which does occur sometimes.
- Outside bodies interfering with the racing - this could be anything including commercial shipping, cruising yachts, VIPs, TV, etc.
- A drifting mark.
- A significant error in the timing of signals.

One of the main uses of the postponement signal is to stop the starting sequence immediately before the start. This is important when the fleet bunch at one end of the start line with the potential for a general recall, particularly when a penalty flag has been displayed as the preparatory signal. A good RO will always be ready to display AP just before the start. Use this when your line is not fair (for whatever reason, including shifting winds). Do not penalise the sailors when it is not their fault!

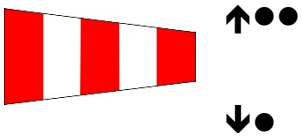
However, if the line is fair and the fleet is just pushing the line, a large number of OCS boats is not a valid reason to postpone; doing so will only encourage the same behaviour for subsequent starts.

Do not postpone for competitors to reach the race area if they could have arrived with reasonable diligence.

The four postponement signals are as follows:

Indefinite Postponement

Flag AP accompanied by two sound signals.



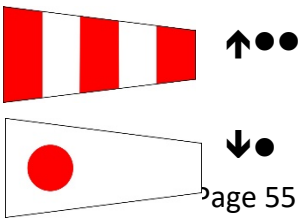
The flag AP is displayed on its own. There is no time limit on this signal, but there is a recommendation that this should not be displayed for longer than 1 hour. This is not always possible and there are many occasions when the signal has to be displayed for longer.

When displayed ashore, this signal requires a SI extending the time between its removal and the next signal. This SI can be found in World Sailing, Sailing Instructions Guide.

This signal requires one sound signal when it is removed. Remove one minute before the Warning Signal.

Specific Time Period Postponement

AP over a numeral accompanied by two sound signals.



When it is obvious from the weather conditions and the forecast that racing is going to be delayed, it is better to signal a one or two hour

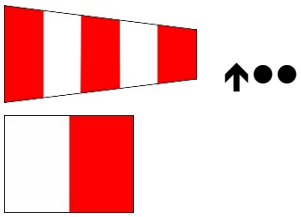
postponement from the scheduled start time. It is recommended that a maximum of two hours is signalled at any time and this can always be extended.

A longer duration cannot be reduced once the signal has been displayed. This signal can only be used when the starting time of the race is scheduled precisely. If it is necessary to further postpone, the numeral always indicates the time from the originally scheduled start time and not the subsequently postponed start time.

This signal requires one sound signal when it is removed. Remove one minute before the Warning Signal.

Races Postponed – Further Signals Ashore

AP over H accompanied by two sound signals.



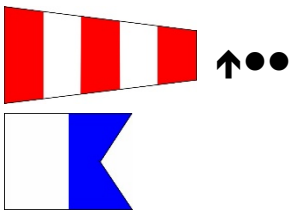
This signal is displayed when the RO decides that for safety, or any other reason, the fleet would be better off ashore. Technically, the only way the fleet can find out what the RO's intentions are for the rest of the day's programme, is to go ashore and look at the shore based flagpole and/or the official notice board.

When decisions have been made, to keep the fleet informed, many ROs will display flag L on the official flagpole and then put a written notice on the official notice board detailing the Race Committee's intentions.

There is no sound signal when this signal is removed.

Races Postponed to Another Day

AP over A accompanied by two sound signals.



When there is insufficient time to complete the day's racing programme, or conditions are such that this is impossible, AP over A is displayed. AP over A should not be displayed too early. The entire day should be used, if necessary, to complete the schedule.

The signal cannot be overruled later if conditions change favourably – so use with care.

There is no sound signal when this signal is removed.

N6 The Warning Signal

The class flag, as prescribed in the SIs, is used as the warning signal. It is the first signal in the starting sequence and the one from which the fleet will start their stopwatches.

If the RO and timekeeper have not already synchronised their watches the RO should also start a stopwatch at this signal. Referring to this watch achieves three objectives;

- It is a check that the timekeeper is calling the time correctly.
- There is a second watch running in case the first one fails.
- The RO does not need to keep asking how the time is running thus distracting the timekeeper.

Displayed at the advertised time or one minute after AP, 1st Sub or N is removed. Every effort should be made by the Race Committee to display this signal at the time stated in the SIs.

It is accompanied by one sound signal.

N7 The Preparatory Signals

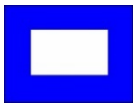
There are six preparatory signals, five of which are penalty notifications. It is important to remember that imposing penalties on the fleet usually puts as much pressure on the Race Committee as it puts on to the fleet.

With good race management and careful planning, the use of penalty signals can be greatly reduced. The competition format used can help reduce the length of the start line and the number of boats starting to more manageable proportions. The larger the fleet, the longer the line and the greater the use of penalty signals. Poor line management sometimes results in an inappropriate use of penalty flags.

It has been the practice not to use a penalty flag for the first attempt to start a race. If they haven't done anything wrong, then why should they be penalised? Furthermore, if, a start is postponed or was subject to a general recall, because of a poor start line, the competitors were not at fault and so should not be subjected to a penalty flag on the next attempted start. Only when they are the cause of a general recall on a good line should a penalty flag be used at the re-start. Times have changed and for some classes U flag is now the popular first preparatory signal.

Preparatory signals are accompanied by one sound signal when displayed and one *long* sound signal when removed. The removal of the preparatory signal is an executive signal which means that whatever signal was displayed as the preparatory signal is now activated. The appropriate rule applies from this point until the start signal.

Flag P - No Penalty

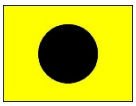


Within the present context of the rules, this signal effectively is the 'no penalty' signal. Boats that are OCS can 'dip' back over the start line.

With a good start line and a reasonable sized fleet, it should be possible to use this flag for the majority of the starts. It has always been thought that the RO should always use flag P at the first attempt of a start. However, with some larger fleets it is better to start with U.

Flag X is displayed after the start signal for boats that are judged to be OCS.

Flag I – Round the Ends Rule



The penalty area is the course side of the start line and its extensions. Boats that are in this area in the minute before the start, i.e. after flag I has been removed, must return to the pre-course side of the line around either end of that line before starting.

Disadvantages: This penalises a boat that is on the course side, in the middle of a long start line, more than it does a boat at either end. This can cause the fleet to bunch at both ends while leaving space in the middle.

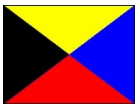
ROs should display flag X after the start signal if any boat is on the course side of the start line or its extensions or, having been there, has failed to return to the pre-course side of the line around the ends. This may cause confusion - and the RO has to have eyes in the back of the head!

All boats infringing this rule must be monitored to verify that they subsequently start correctly. This is onerous and usually requires more people to administer.

This penalty may create a dangerous situation with boats reaching across the oncoming fleet in their attempt to return to the pre-course side of the line via its ends.

This signal is no longer used much. It does seem to find favour amongst the Windsurfers, however.

Flag Z – 20% Scoring Penalty



The penalty area is the triangle formed by the start line and the first mark of the course. Boats that are in this area in the minute before the start, after flag Z has been removed may return to the pre-course side of the start line by re-crossing, i.e. 'dip' back. If the boat subsequently starts correctly it is subject to a 20% scoring penalty, of the number of boats entered, rounding 0.5 upwards, otherwise it will be scored OCS. If a boat again infringes the penalty area at a restart following a General Recall or an Abandonment after starting, it is subject to an additional 20% penalty. The penalties remain separate and do not become cumulative so two penalties are 20% + 20%, not 40%. However, the boats score can be no worse than a DNF.

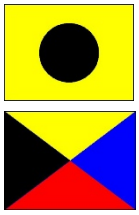
Disadvantages: If there is a general recall or abandonment after the start, the penalty is kept by the boat even if the race is restarted. This is not the case with postponement or abandonment before the start. The RO is obliged to AP the start if the line is not square or fair, thus avoiding the likelihood of penalising an innocent competitor.

Advantages: Should there be a general recall, there is no requirement to display the offending boat's sail numbers on the committee vessel as is the case when using the black flag.

Flag X is displayed after the start signal for boats that are judged to be OCS at the start but not for those that dipped back and then started correctly.

This preparatory signal is never used for dinghy racing but is used for cruiser racer racing.

Flags I and Z - Round the Ends Rule + 20% Scoring Penalty



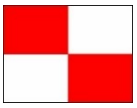
The penalty area is the course side of the start line or its extensions. Boats that are in this area in the minute before the start (after flag 'I + Z' have been removed) must return to the pre-course side of the line around either end. Boats that were in the triangle formed by the start line and the first mark will also incur a 20% scoring penalty.

All of the disadvantages of both the I flag and the Z flag apply.

Flag X is displayed after the start signal for boats that are judged to be OCS and/or have failed to return to the pre-course side of the line around its ends.

This preparatory signal is used extremely rarely.

Flag U - UFD U Flag Disqualification



The penalty area is the triangle formed by the start line and the first mark of the course. Boats that are in this area in the minute before the start, after the U flag has been removed, are scored, without a hearing, UFD U Flag Disqualification.

It is essentially the same as a black flag (see below) except that after a general recall or abandonment after the start the penalty is not retained by the boat and the slate is wiped clean for that race and the boat may take part in the re-start of that race.

Disadvantages: May not prevent ill-discipline by allowing for a "push" to the line and prompting a General Recall without fear of penalty.

Advantages: A soft 'black flag' choice that, while allowing for identified boats to be disqualified, does let them back for a subsequent start should another General Recall take place.

The Individual Recall, flag X, does not apply to a U flag start.

The turnaround to the restart of a race subject to a general recall does not create an extra workload for Race Committee.

This can be the preferred initial preparatory flag for some fleets of thirty or more.

The Black Flag - BFD Black Flag Disqualification

The penalty area is the triangle formed by the start line and the first mark of the course. Boats that are in this area in the minute before the start, after the black flag has been removed, are scored, without a hearing, BFD Black Flag Disqualification.

Disadvantages: As with the Z flag, if there is a general recall or the race is abandoned after the start, the BFD penalty is kept by the boat even if the race is restarted. This is not the case with a postponement or abandonment before the start. The RO is obliged to AP the start if the line is not square or poor line, thus avoiding the likelihood of penalising an innocent competitor.

The black flag penalty rule states that the sail numbers of BFD penalised boats shall be displayed on the committee vessel before the warning signal of the restart and the BFD penalised boats shall not sail in the re-started race. If they do take part in the re-started race they will be scored DNE.

Before publishing the numbers, the recorders should check carefully that all the sail numbers called as being BFD appear on the start sheet, i.e. are valid numbers and if not, are removed from the list displayed on the committee vessel. The effort of this procedure as far as the Race Committee is concerned is considerable.

It is recommended that a very late postponement should be made no later than five seconds before the start, although some have run down to 2 seconds when they have called for the AP.

It is most important that the RO is aware that once the start signal has been made and there are boats OCS, they have to be scored BFD and if there is a General Recall they cannot take part in any re-start.

The Individual Recall, flag X, does not apply to a black flag start.

N8 One Minute to the Start

Preparatory Signal Removed. The penalty period, if any, commences. When starting under I flag we must record the sail numbers of boats whose hull is on the course side of the starting line and its extensions. When starting under Z or U or Black flag we must record the sail numbers of boats whose hull is in the triangle formed by the ends of the starting line and the first mark.

To cover the events during the starting sequence, the RO and any other person sighting the line should use a recording device and record continuously from at least 90 seconds before the starting signal.

They should start the recording with a brief description – what day, race number and attempt number, class, wind and sea state. They should then describe what they see as if for a radio broadcast. Which boats are near to the line, how far behind the line in boat lengths, whereabouts on the line CV or pin end, if there is bunching at one end or another etc.

The recording should run on to capture any recalls and returns, whether X or the 1st Sub are used. Always endeavour to record the timekeeper as they count down to the start. Sound signals will also be recorded.

At the start signal the RO should call ‘Line clear’ or ‘Individual’ or ‘General’ and the sail numbers of boats OCS. This latter recording is the most important recording to be made. It is difficult to record boat numbers immediately the start is made, therefore start recording boats that might be over in the few seconds before the start signal, or as soon as they cross the start line early. There is then a good chance that every boat that is OCS will be correctly identified.

Recordings should be labelled and not erased until after the conclusion of the entire event. You never know when a Protest Committee might require that particular piece of evidence.

N9 Sighting and Calling the Line

This is more difficult than it seems. It is recommended that you stand 1 metre behind the starting mast on the transit of the line. Always have a second pair of eyes on each end of the start line. This will help in the correct identification of the boats.

The use of video to record the last 90 seconds of a start, from both ends of the Start Line can be of significant use, as boats can be identified after the start when U or Black are in force.

If a yacht is used as the committee vessel the main mast can be used as one end of the line. However, some ROs prefer to use a dedicated starting mast attached to a shroud. This can be used on any type of committee vessel. Old broken laser mast sections covered in orange fluorescent vinyl can be a cheap and effective starting mast. Because these masts are quite thin the RO has a very good view of boats approaching and crossing the line.

When a vessel is used as the pin end, then the same applies. When a buoy is used as the pin then the person sighting the line from that end must anchor their vessel on the extension of the start line, lining the pin end buoy with the mast on the committee vessel. They must leave sufficient room between the boat and the buoy so that a boat may pass between the pin end vessel and the pin end

Decision Time

The RO has to make an instant decision at the start signal. They have one of three choices to make:

- It is a good start – 'Line Clear'
- There are one or more clearly identified OCS boats – 'Flag X, Individual Recall' or UFD/BFD recorded
- There are too many unidentified boats – '1st Sub, General Recall'

To help make a decision we need input from other Race Committee members sighting the line. In particular the Assistant Race Officer at the pin end.

- How many boats in total over the line?
- How many boats identified?

At this stage the RO does not require boat sail numbers. The ARO gives two numbers, e.g. 3 and 2; three boats over in total, two boats positively identified. The smaller number can only be the number of identified boats, the bigger is the total number over the line.

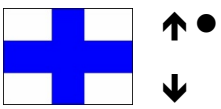
This information, added to their own observations, allows the RO to decide between an Individual Recall and a General Recall.

Whilst, the final decision is that of the RO, it is recommended that they and the pin end Assistant Race Officer agree the total number of identified OCS or UFD or BFD boats and the total number considered OCS or UFD or BFD.

N10 Recalls

Individual Recall - Flag X

When there are clearly identified boats OCS, flag X shall be displayed with a sound signal as soon as possible after the start. However, this does not apply on a U or black flag start.



Case law states that this sound signal and the visual signal must be made at the same time and within five seconds. The recommendation to all ROs is to make this signal within 4 seconds of the start signal. If there is delay making the signal for an individual recall, it is best to abandon the race and start again, rather than to allow an OCS boat to start unfairly and with the likelihood of being awarded redress (when scored OCS) for an error in procedure by the Race Committee.

Flag X remains displayed until;

- All the boats clearly identified have returned to the pre-start side of the start line or one of its extensions and have complied with RRS 30.1 (I flag rule), or
- For 4 minutes after the Start, or
- Until 1 minute before the next start signal.

It is removed without a sound signal.

The RO must make every effort to identify all OCS boats. This can be quite difficult at times, particularly when some boats are obscured from view by boats nearer to either end of the line. in which case - signal a General Recall. The RO should not permit a race to continue if they are satisfied that unidentified boats were over early. It is undesirable to signal an individual recall and then a general recall.

It is normal practice to use the sail number of the boat for identification purposes. This can cause problems for ROs where:

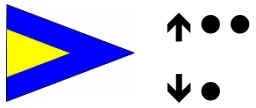
- Numbers extend into 6 digits (as in the Laser Class).
- Transparent sail material allows the number on the reverse side to be seen especially with digitised numbers where a 5 and a 2 on opposite sides of the sail cause confusion.
- Numbers are set back near the leech of the sail.
- Reefing of sails obscure the number.

To overcome this, the experienced RO will note on a tape recorder other identifying features, such as the colours of the hull, foredeck or clothing.

There are other ways of mitigating this problem e.g. For Lasers only using the last four numbers (which are a different colour) or using Bow Numbers.

General Recall – 1st Sub

A General Recall should be used when the RO is unable to identify all boats that are on course side of the starting line. It shall be displayed with two sound signals.



The RO must always ask themselves what caused many boats to be over the line at the start? There can be a variety of reasons including:

- A wind shift causing an unexpected surge of boats at one end of the line.
- Tidal current pushing boats onto the course side of the line.
- A short start line on which the boats have difficulty finding a space. This usually creates a bunch in the middle of the line.
- A poorly defined start line. If the masts are not tall enough or the flags on the masts are not big enough sailors have difficulty knowing where the start line is.

In case of any problems with the line (length, or angle to the wind etc.) RO should AP just before the start instead of a general recall. In case of a Race Committee error discovered after the starting signal (e.g. timing), the race should be abandoned rather than signalling a general recall. The rules do allow a 1st Substitute to be used in these circumstances, but it is considered better to abandon. This is on the basis that best practice tells the sailors that a General Recall is used when

the problem was caused by them whereas when the problem is ours and is recognised before the start, we AP. When realised afterwards, then the only answer is to abandon.

After a general recall, with the exception of the black flag penalty BFD, all boats are allowed to re-start the race (but some may carry a 20% penalty if flag Z was displayed). ROs should be very wary of allowing a start to take place on a bad line in which there is likely to be a large number of boats over the line followed by a general recall, especially when a penalty flag was used as the preparatory signal. As stated above, a good RO will use a very late postponement signal under these circumstances.

If the black flag has been used the sail numbers of the boats scored BFD in that start now have to be displayed from the committee vessel. A blackboard or whiteboard will suffice. The numbers must be visible to boats sailing past the CV. When displayed the CV can display flag L with one sound to draw the attention of the fleet.

Flag 1st Sub is left on display until one minute before the next signal, usually the warning signal for a re-start of the race (or it may be changed to one of the postponement signals). If there is no alteration to the course or any other delay, the RO should prepare for a new warning signal as soon as the fleet are back in the starting area.

When the Race Committee is ready, flag 1st Sub can be removed with one sound signal. The Race Committee does not have to wait for the fleet to return to the starting area. However, it is good practice to wait if the fleet would not have been able to return having started to do so promptly, e.g. light winds with adverse current.

The new warning signal is displayed precisely one minute later to commence the new starting sequence.

In the case of any boats scored OCS or UFD or BFD, in an otherwise good start, it is courtesy to write the numbers on a blackboard or whiteboard for display from the CV. The offenders will not see this until they finish the race but at least they and others will know their score.

O DURING THE RACE

O1 Race Control after the Start

Monitoring the fleet and observing the weather conditions are major tasks of the Race Committee during the race. The Race Officer has to ensure fair conditions for the competitors and therefore has to consider changes of the course, or even abandonment, when major wind shifts occur or the security of the competitors is in question.

The start was good, the fleet is progressing up the first leg, but we must be aware that there are several situations that can develop during a race that can spoil it. Careful observation and a supply of information from the mark laying vessels around the course area, will allow the good RO to anticipate problems before they reach a critical stage. Some issues that can spoil an otherwise good race are:

- Collapse of wind speed making the time limit impossible to achieve and therefore losing the race.
- Increase in wind speed resulting in danger to life, turning the race into a survival course.
- Change in wind direction, reducing the size of the field of play or making the race a procession.
- Marks moving, possibly due to anchors not holding.

There are various processes that the RO can use to ensure that the race reaches a satisfactory conclusion, including:

- Shorten the course
- Adjust the course to a new wind
- Replace a missing mark
- Abandon the race – this is the very last resort!

Careful monitoring and early decisive action can improve or save many races.

Other responsibilities

We need to record the positions of boats as the race progresses. This becomes more important in multiple fleet or class events or when the leaders might lap the tail-enders. In many events this duty is carried out at each rounding mark.

In addition, where classes allow Rule 42 to be turned on or off depending on wind speed. The wind speed has to be monitored and if a decision to change the status of rule 42 is made this has to be signalled to the competitors – after informing the 'on the water' judges.

O2 Changing the Course during a Race

Wind shifts are a part of racing. However, if a shift becomes permanent affecting an entire leg or more, the course may become too one-sided and a change of course is desirable. Some course configurations make this difficult; short races may make it impossible.

Change in Wind Direction

As a guideline:

With a wind shift of 10° or less	The course should not be changed unless it is necessary to adjust for current or to provide a square run.
Between 10° and 15°	Consideration should be given to adjusting the course to the new wind provided that the RO is confident that the change is permanent.

With a wind shift in excess of 15°	The course should be adjusted to the new wind.
With a wind shift in excess of 45°	The RO should consider the stability of the shift and its influence on the race.
Frequent and violent wind shifts	Under these circumstances the Race Committee may not be able to adjust the course sufficiently or quickly enough to maintain a race of the required standard. The race should be abandoned.

Changes in current or a difference in the angle of the current relative to the wind may justify changes outside of these guidelines.

Change in Wind Speed

When wind strength changes and effects the target time for the fleet to sail the course or that a time limit may be exceeded then a change in the length of a leg is appropriate.

Change in leg lengths should be such that the new leg length is no less than 50% or no more than 150% of original leg length.

Do not make too many changes in length just to achieve target time.

Changes in current may justify changes outside these same guidelines.

How to Change the Course

There are two methods used to achieve a change in length or direction of the course:

Normal process is to lift the mark and move it to its new position. This can be a slow process and impossible to do until the tail end of the fleet have rounded the mark. Meanwhile the leading boats are about to round the next mark to sail the 'new' leg.

Once the changes have been signalled (see below) the mark does not have to be in its new position when the leading boats start the leg.

When there is more than one fleet on a leg of a course, just moving a mark is impossible. The solution is to have ‘change marks’. A new mark, of different shape or colour, is laid in the new position and then the old mark is removed after the last boat has rounded. The tail-enders can still sail to the 'old' mark whilst the leaders sail to the new one.

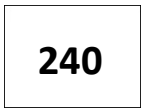
In both cases we must signal to the fleet at the start of the leg to be changed to inform them of the change. Suitable SIs for change marks can be found in the World Sailing, Sailing Instructions Guide.

Not infrequently the course needs to be changed in both direction and length in which case the signals are appropriately combined. Every effort should be made to maintain proper configuration of the course.

Signalling the Course Change to the Fleet

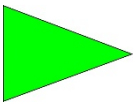
At the start of the leg to be changed we station, usually a mark vessel, displaying the change course signal required with repetitive sound signals. Try not to use groups of three sounds to avoid confusion with the abandonment signal. The signal must be displayed to every boat in the fleet as it approaches the mark. In some circumstances it is hard to read flag signals so many now use lightweight boards to display the signals.

To change the course for either direction or length we display flag C (Charlie) with one or more of the following:

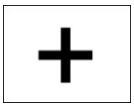


The new bearing for the next mark or

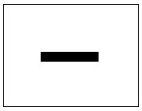
When the new position of the next mark is to Port of the original or



When the new position of the next mark is to Starboard of the original and/or



When the leg is to be significantly increased in length or



When the leg is to be significantly reduced in length

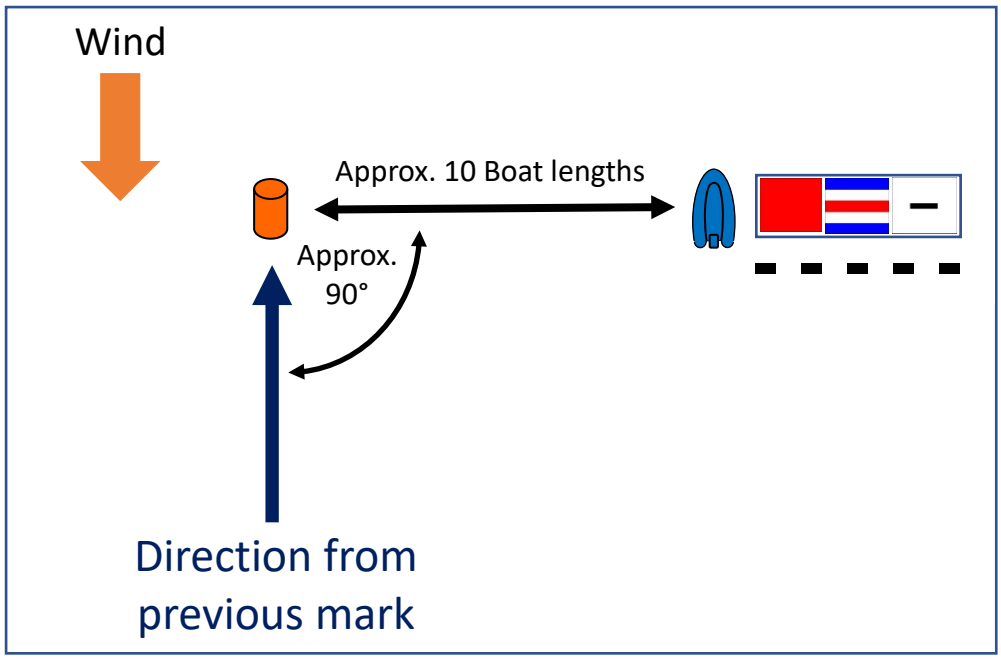
It is not uncommon to add a SI to state that minor mark moves, either small bearing or distance may not be signalled. This allows small course tweaks to be made using less manpower.

O3 Mark Move - Signal Vessel Positioning

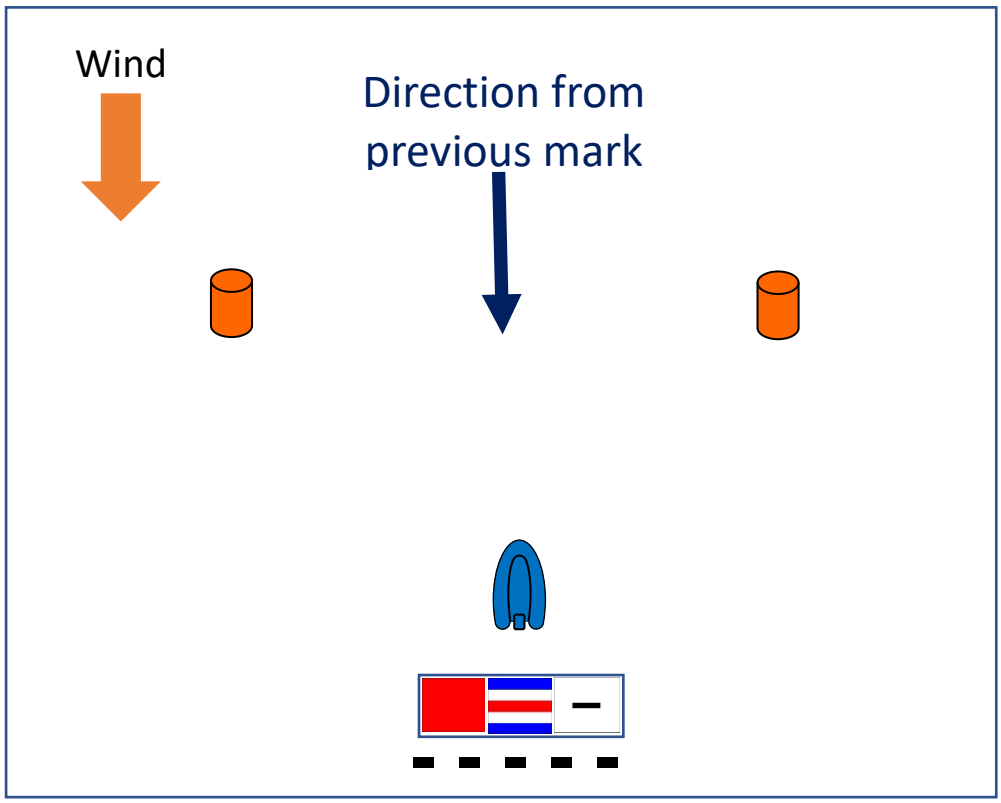
Use the signal vessel to form a gate on the approach side of the previous mark. It must be above the lay line of the approaching boats. More or less 90 degrees to the direction of the previous mark. The signal must be made to each boat as it passes through the gate so that it receives it before it commences the new leg.

Suggested positions for the signal to be made:

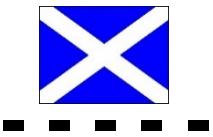
Fleet approaching a Windward or Reach Mark



Fleet approaching a Gate



O4 Mark Missing



Marks can, and do, go adrift. There are various reasons – incorrectly laid anchors, too short an anchor line, can even be caught on a boat's equipment or keel, centreboard or foil or even punctured.

The action of the Race Committee will depend on the particular circumstances at the time the mark moves off station. If there is time it should be 'captured' and towed back into the correct position with additional line attached. However, there are times when a replacement mark is required. Good race management teams will have spare marks at sea ready for use.

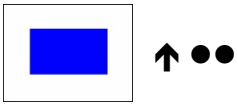
If it is not possible to move it back or replace it, then a vessel should be anchored in the position of the mark, display flag M and make a repetitive sound signal. This vessel is then a replacement mark. It should be in place well before the boats approach.

The very last resort is to abandon the race. If the race becomes unfair, the unfairness being caused by the mark having moved while the fleet is still rounding it making some boats sail a greater distance than others, then the only course of action is to abandon.

O5 Shorten Course – Flag S

When this signal is displayed, with two sound signals, the course is shortened. This means that the course which was displayed at the warning signal has one or more legs cut off.

Displaying the Signal

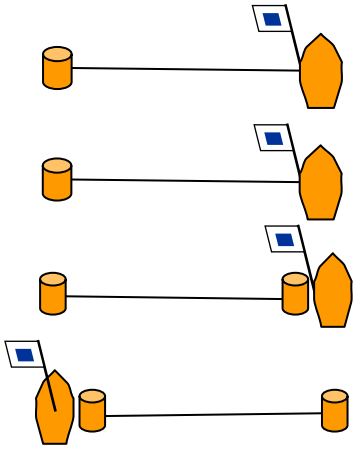


The leading boat in the race expects to sail the course as displayed at the warning signal. They will sail tactically with this in mind. When the course is shortened by removing one or more legs, the tactics employed by any competing boat may change.

For this reason, the decision must not be taken lightly and when made, it is important that the signal is both seen and heard as early as possible, although it might be some considerable distance upwind of the fleet's position. If possible, display the signal as soon as the leading boat comes within hearing distance of the sound signal accompanying the signal. In practice the sooner the fleet realise what is happening the better. The RRS states that the course shall be signalled before the first boat crosses the finishing line, which allows this to be a late signal.

The Shorten Course Finish Line

In Rule 32 this is:



At a rounding *mark*, between the *mark* and a staff displaying flag S

At a line the course requires boats to cross

At a gate, between the gate *marks*

Alternative position at a gate

At a rounding mark always place the CV on the approach side of the mark. This avoids some competitors trying to do a 'hook finish'.

At a gate always place the CV right alongside one of the gate marks – prevents the fleet going between the CV and the gate mark. (It happens!) Always ensure the fleet can see both marks.

Some events do not allow a course to be shortened and this signal to be used. A SI will dictate this. No specific SI is required to allow shortening of a course because this is already covered in the RRS (Rule 32).

Shortening a leg rather than the course, even the final leg, is allowed by using a minus sign as specified in Rule 33.

O6 Abandon the Race

The Last Resort

Abandoning a race using flag N, N over H, or N over A after the start of a race, stops the race. This can present the RO with problems because, the race leader will not be very happy, whereas the boat at the back will probably welcome the decision. It is a 'no-win' situation for the RO.

The rule that allows a RO to abandon a race after a boat has finished requires them to 'consider the consequences for all boats in the race or series before abandoning'. In practice, consult the Judges and the Class representative if possible before this.

It is very important to study the rule (Rule 32) that authorises the use of the abandon signal. This rule lists five reasons for abandonment:

- An error in the starting procedure (this includes an invalid signal for an Individual Recall)
- Because of foul weather
- Insufficient wind making it unlikely that any boat will *finish* within the time limit
- Because a mark that is missing or out of position

- For any other reason directly affecting the safety or fairness of the race.

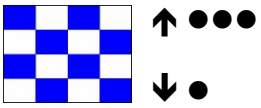
It is strongly recommended that the following policies are followed with respect to the use of this signal:

- On the first half of the first leg, abandon in the event of a major wind shift (more than 25 degrees) or the wind dying. After that, let the race continue and change the course.
- Collapse of wind. It is appropriate to abandon the race when the situation is such that the leading boat would be unlikely to reach Mark 1 within the Mark 1 time limit or complete the course within the overall time limit, even if a new wind were to arrive. It has to be considered whether a new wind is likely. The further into the race, the more unlikely it is to be appropriate to abandon. If any boat has finished within the time limit it would normally be improper to abandon due to insufficient wind
- Increase of wind speed causing danger to life. When there is a danger to life, the race should be abandoned immediately. The number of boats available for rescue (not currently involved in rescue) should be considered. The decision should also be based on the wind speed upper limits in the class rules or previously agreed with the class and the organising authority.
- Unusual occurrence making the race unfair. This can happen when there is some outside influence that has an adverse effect upon the fairness of the race.
- Frequent and violent wind shifts. Under these circumstances the Race Committee may not be able to adjust the course sufficiently or quickly enough to maintain a race of the required standard. If this is the case the race should be abandoned.
- For Windsurfing events, if pumping becomes the main method of propulsion, the race shall be abandoned.

Abandon Signals

Care must be taken with these signals because when displayed alone they apply to all classes. It may be necessary to qualify them with a class flag. Particular care is required if the RO wants to stop one fleet but let another fleet carry on. Sometimes this is not possible.

All Races are Abandoned - Return to the Start Area

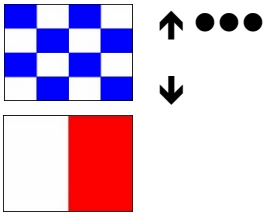


Flag N accompanied by three sound signals

When displayed alone, flag N can only be used after the start. It means that the race is abandoned, competitors should return to the start area and a new start will be made as soon as practical.

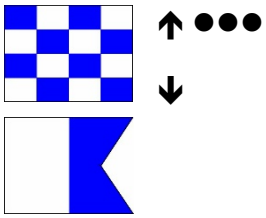
Removal is accompanied by a single sound signal and followed one minute later by the warning signal of the restart.

All Races are Abandoned - Further Signals Ashore



Flags N over H accompanied by three sound signals. May be displayed at any time - before or after the start.

All Races are Abandoned - No More Racing Today



Flags 'N over A' accompanied by three sound signals. May be displayed at any time - before or after the start.

Use this with care as it cannot be revoked. This should only be used when time has run out to get any chance of racing on a particular day

O7 Rule 42 Management

The Flags O and R

The following rules (RRS Appendix P5) shall apply if the SIs so state:

If the class rules permit pumping, rocking and ooching when the wind speed exceeds a specified limit, the Race Committee may signal that those actions are permitted, as specified in the class rules, by displaying flag O before or with the warning signal. The flag will be removed at the starting signal.

If the wind speed exceeds the specified limit after the starting signal, the Race Committee may display flag O with repetitive sounds at a rounding mark to signal that the actions are permitted, as specified in the class rules, to a boat after she has passed the mark.

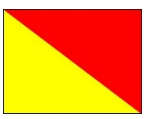
If the wind speed becomes less than the specified limit after flag O was displayed, the Race Committee may display flag R with repetitive sounds at a rounding mark to signal that rule 42, as changed by the class rules, applies to a boat after she has passed the mark.

Only certain classes allow this system to operate. The wind speed at which this rule is switched off or on is very important and defined in the class rules. This can be very critical if two classes using the same course area require different wind speeds. ROs are advised to argue strongly in favour of classes using this system to race on different course areas or to establish a wind speed that is acceptable to both classes.

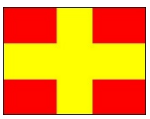
The Race Committee has sole responsibility for implementing the system. The information on wind speed and direction that is provided by the mark laying vessels at each mark must continue to flow throughout the race so that the RO is aware of wind speeds across the entire course.

To avoid constantly turning off and restoring rule 42 the Race Committee should be certain that the increase or decrease in wind speed is going to remain constant over the course area. The wind speed should be consistently above or below the limiting speed before any change is implemented. If there is any doubt that the wind speed is not reliable and that it will consistently be flickering around the designated wind speed, then do not make a change.

It is essential that jury vessels are kept fully informed at all times of the Race Committee's intentions and actions. To avoid confusion the RO should use the following terms when informing the judges of changes concerning Rule 42 management; "Negative Oscar" or "Oscar displayed" at the warning signal; "Oscar displayed" or "Romeo displayed" during the race.



Rule 42 switched **O**ff – with repetitive sound signals



Rule 42 **R**estored – with repetitive sound signals

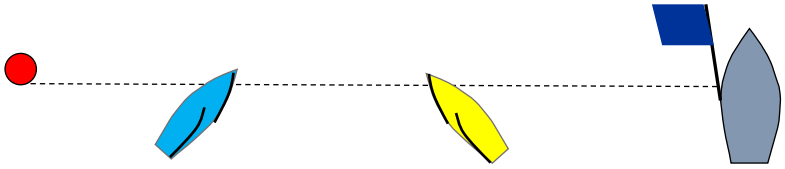
The position of the vessel that signals O or R follows the same principles as those for signalling a change of course.

P THE FINISH

P1 Location of the Finish Line

The finishing line should be set before the first boat starts the final leg. The location of the finish line in relation to the course can be critical and affects the efficiency of the race management when more than one race is to be sailed back-to-back. The ability to read sail numbers or other means of identification can also be affected.

Upwind – at the end of a beat



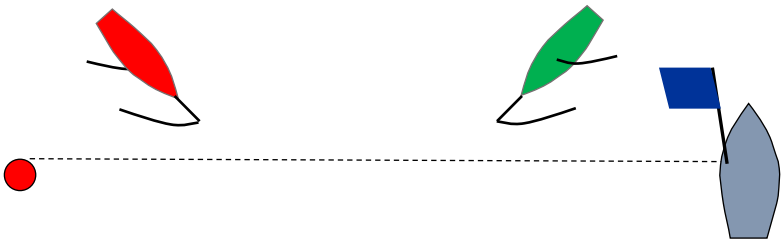
Either at the windward mark or laying it some 50 to 70 metres upwind of the windward mark. This leaves Mark 1 clear of finishing boats. This was the traditional place for the Race Committee to locate the finish line, Mark 1 is not included as a mark of the course for boats sailing the final beat to the finish.

This type of finishing line makes it easy for the person calling the boat's number over the finish line to see the sail number.

The disadvantage of this position relative to the course is that the boats then have to sail back to the starting area for the next start. This takes time and slows up the process of starting the next race.

From the competitors' point of view – the finish can be tactical as boats can change places coming to the line.

Downwind – a running finish



This is probably the most difficult position in which to record boats over the finish line. The mainsail number is frequently difficult to see and the boats can be travelling faster. However in low breeze conditions there can be considerable bunching. Numbers displayed on spinnakers are sometimes absent but will, when present, assist in identification. It may help to have a boat downwind of the finishing line looking up the course, to identify boats.

When racing back-to-back, this location allows the Race Committee to operate a quick turn round.

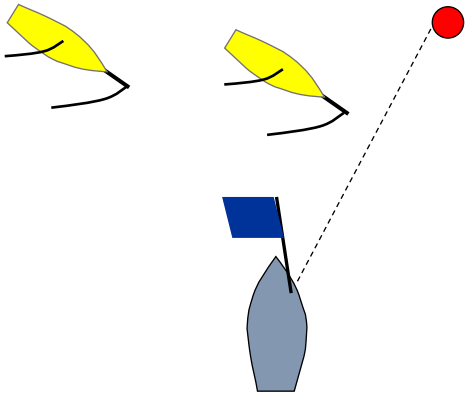
From the competitors' point of view – the finish can be tactical as boats can change places coming to the line

Reaching Finish

The finish line is set off the bow of the committee vessel so that the last leg of the course is a short reach from the leeward mark to the finish. The sail numbers are easy to read.

This has the advantage of the fleet finishing in the vicinity of the start line ready for a quick turn round.

This a passive finish – no significant place changes coming to the line.



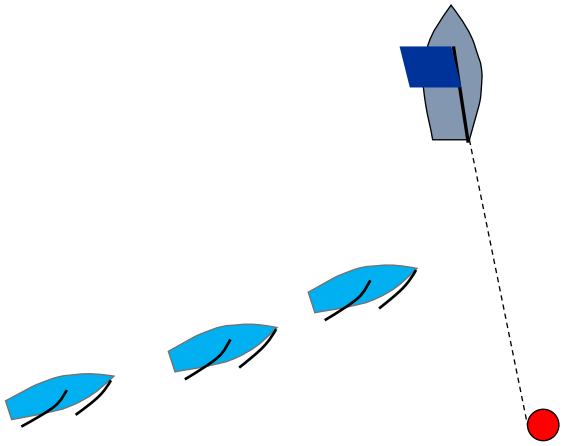
Fetch Finish

The finish line is set of the stern of the committee vessel so that the leg from the last mark is a fetch. The sail numbers are easy to read.

As above, competitors are finishing in the vicinity of the starting line ready for a quick turnaround.

Passive finish again – no place changes coming to the line.

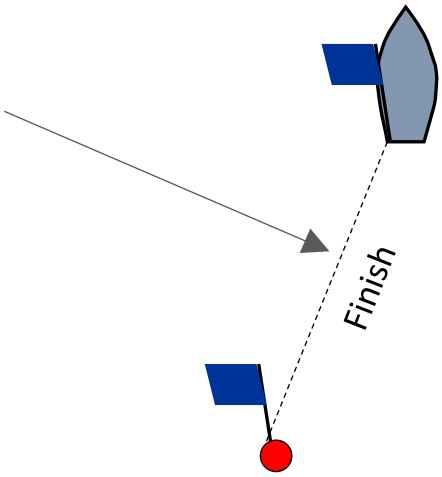
In both these cases the last mark becomes the tactical end of the race.



Finish line vessel position

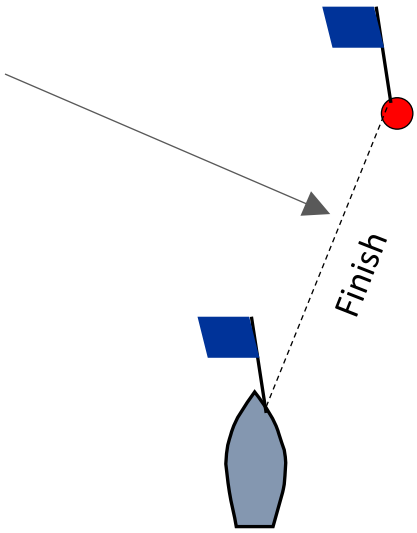
Finish Vessel to Windward

Recording team warmer, safer, drier
Hard to see Sail Numbers



Finish Vessel to leeward

Recording team positioning can be awkward
Easy to read Sail Numbers



P2 Laying the Finish Line

It is not necessary to set the finishing line until the race is well on its way, however it should be set before the leading boat starts the final leg.

A finishing line at the windward end of the course should be set so that it is at 90 degrees to the sailing wind direction. On all other legs of the course, the finishing line is set at 90 degrees to the last leg of the course.

The Finishing line should be seven to ten boat lengths long for most fleets but perhaps a little longer for large offshore cruiser racers.

Ensure the line is as distinct and obvious as possible. Use masts that are easy to spot and make sure flags are of adequate size. Avoid anything which might confuse the competitor such as additional fixed marks, RIBs with flags etc.

Finish Line Flag

RRS says in Race Signals – Blue Flag – The staff displaying this flag is one end of the finishing line. This a change in the 2021-2024 rules. Display when the lead boat commences the last leg.

Remove the blue flag without a sound either at the expiration of the time limit, or after the last boat finishes, whichever is the sooner.

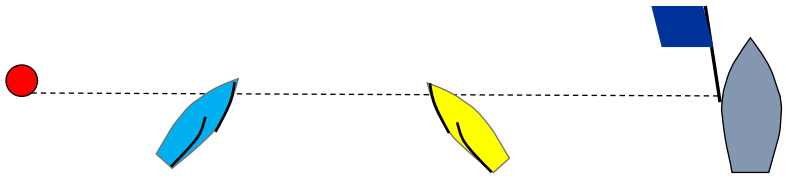
P3 The Finish of the Race

Finish Racing

The definitions of *Finish* and *Racing* should be clearly understood by the RO sighting the finish line.

A boat *finishes* when, after *starting*, any part of her hull crosses the finishing line from the course side. This is new wording in the 2021-2024 rules

She can correct an error in *sailing the course* made at the line



Both boats have finished but are still racing

However, she has not *finished* if, after crossing the finish line she

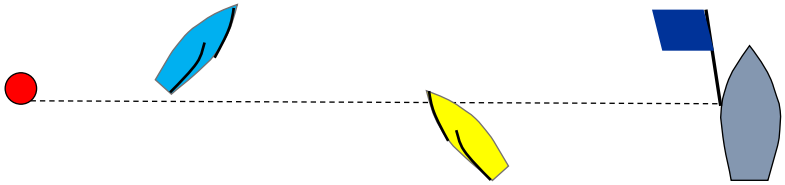
(a) Takes a penalty under Rule 44.2
(b) Corrects an error in *sailing the course* made at the line, or
(c) Continues to *sail the course*

The whole boat does not have to cross the line. Once finished a boat may clear the line in either direction by crossing the line fully or falling back onto the course side.

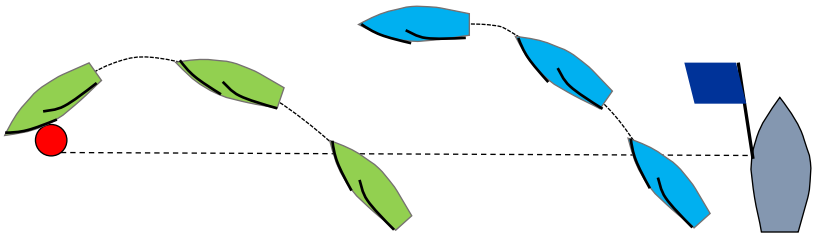
Clearing the finish line and marks

A boat is *racing* …….. until she *finishes* and clears the finish line and *marks*.

A boat clears the finish line and marks when no part of her hull, crew and equipment is on the line, and no mark is influencing her choice of course. (Wording from Case 127)



Yellow has finished, Blue has finished and cleared the line but neither have yet cleared the marks. Both are still racing.



Green has finished and cleared the line but NOT the mark. Blue has finished and cleared the finish line. She may go home.

Yellow has finished and hit the finish mark before clearing the line. She must now take a penalty. Once she has completed the penalty and crossed the finish line a second time, that is the recorded position. Record each time yellow crosses the line and annotate the first entry.

Time Limits

A race is scored if it is not abandoned and one boat *starts*, *sails the course* and *finishes* within the race time limit (even if she later retires after finishing or is disqualified)

However, if the only boat to finish within the race time limit was OCS (or UFD or BFD and did not return to the pre course side before the start) then the race will not be valid as they have not complied with the definition *start.*

P4 Recording the Finish

It is essential to have an accurate record of all boats that cross the finish line. When a boat sails outside the finish line but across its extensions, a note should also be kept of where it would have finished if it had crossed the finish line. This is just in case there is a request for redress. The use of video to record the finish is highly recommended to decide “close” finishes and locate “missing” finishers.

Recording teams should consist of two or three people. For non-handicap racing when the time of finishing is irrelevant (apart from the first and last finisher) one person sights the line and calls the

sail numbers of the boats as they cross whilst the second person records those numbers in the order called. The line sighter/caller should also be recording on a voice recorder.

For handicap racing the finish time is important so one person sights the line and calls sail numbers, the timekeeper calls the time and the two recorders note both the sail number and the time of that finish. If boats cross the line close together then one recorder concentrates on the sail numbers whilst the other concentrates on the finish times - the two records are then married. The line sighter/caller should also be recording on a voice recorder and including the times if the person calling the time is close enough.

It is very important that all boats are recorded as they cross the line, in particular:

- If a class is divided into fleets – do not try to see to which fleet the boat belongs. If the fleets are finishing together then recording them separately will be too difficult. Just call the sail numbers as they finish in order. Results programmes will deal with this problem.
- If a boat crosses the line more than once – this boat may have taken a penalty for hitting a finishing mark and then crossed the finish line again. Both positions should be recorded and the decision as to which one is the boat's final position made later.

Always have more than one recording team. The second team should be independent of the first and sat at a slightly different angle to the finish line. This will give a good check on the accuracy of the main caller (the person calling the line). If there is a close finish, then this team may finish up with boats in a different order to the main recording team. It is the main recording team's position that is taken as the boat's position. Once all boats have finished, then the main recording team's results record should be checked against the set from the second team to minimise any errors (missing boats or recording errors). Take the positions from the main set and verify using the second set. Verify any discrepancies by referring to the entry list or using a spotter's sheet if available.

For an accurate record the use of a voice recording machine is essential. Modern digital recorders time-stamp the recording so finish times can be worked out retrospectively if required. They also allow each race to be placed in its own folder making it easier to find the recording.

A boat that is known to be OCS (or UFD or BFD and did not come back to the pre-course side of the start line before the start) cannot trigger the time limit. It's time and position should be recorded but the first boat that started correctly is the one that triggers the time limit, although this boat may cross the finishing line 3rd or 4th.

The time of the first and last boat should be taken even in one design racing. The SIs may specify a finishing window after the first boat finishes – note it on the finish sheet.

A boat that misses out a mark of the course can be scored NSC (Not Sailed the Course) by the Race Committee if they are certain that an infringement occurred. The boat's finishing place should be recorded and annotated NSC.

Remember that unlike the start which can be done over and over, the Race Committee gets only one chance to record the finish! Have as much backup as is practical and record **every** boat that crosses the finishing line and its extensions, making notes as appropriate.

P5 Use of Video

When properly used, video can be an incredibly powerful tool to aid race management. When used poorly, it can be a distraction and can lead to a false sense of security.

Video Equipment

Use a tablet or phone which can be reviewed easily on the water – the bigger the screen the better. Ensure it is in a waterproof case and tethered. Use a video app which adds a date and time stamp to the video. Ensure there is enough storage capacity and battery charge. Carry a spare power pack or charger and be mindful of compromising the waterproofing.

Video Usage Tips

Ideally, dedicate a person on the committee vessel for videoing. Video should be hand-held, not mounted on the vessel. This person should be standing with arms not resting against the vessel. Be aware of having the camera app in stills mode or accidentally pausing the video. Start each video with an audible description of which start/finish it is. Protect the mic from wind noise. Ensure the timestamp is synced to the master clock.

P6 Whiskey Flag Routine

Where the whiskey flag routine has been written into the SIs we need to record the boats given a score under this process. The Race Committee vessel performing the routine should keep their own record and sometimes it is communicated to the committee vessel by VHF. This can be distracting during a race finish and it is useful to have someone just handling all communications during the finishing process.

P7 Sound Signals at the Finish

The instant the first boat that started properly finishes, sound a clearly recognisable signal so that the other competitors have a time reference to the first finish. This time must be recorded (the hour, minutes and seconds) and the time limit calculated. It should be remembered, however, that an OCS (or UFD or BFD – see above) boat that was the first to cross the finish line may request redress and be reinstated, thus influencing the time limit.

No other sound signals should be made. There is no reference to a sound signal for a boat finishing being required in the RRS. Making a sound signal for every boat is a nuisance when the RO is recording the finishing positions on a digital recorder.

Q POST-RACE TASKS

Q1 Accounting for All Boats

In association with the Event Safety Officer, mark vessels, patrol vessels and the Beach Master, the RO must satisfy themselves that all competitors and RC vessels are accounted for. Especially in difficult conditions the "all clear" is not given until all competitors and RC vessels are ashore, on moorings or at least in sheltered water. The tally system, if used, should be carefully checked to ensure that all the regulations have been complied with. The RC vessel with the RO on board should be one of the last vessels to come off the water.

Q2 Scoring

Scoring is part of the Race Committee's responsibility. All boats entered in the event that register are entitled to be given a score. Each boat should appear on the finishing list with either a race position or one of the acronyms used to designate their score, e.g. OCS or BFD.

A race is scored if:

- It is not abandoned and
- One boat *starts*, *sails the course* and *finishes* within the race time limit (even if she later retires after finishing or is disqualified)

However, if the only boat to finish within the race time limit was OCS (or UFD or BFD and did not return to the pre course side before the start) then the race will not be valid as they have not complied with the definition *start.* This is a change to Rule 35 in the 2021-2024 RRS.

The default scoring system is RRS Appendix A. The Low Point System will apply unless the NoR or SIs specify another system. Readily available scoring software will take away a lot of the pain!

The Race Officer may be asked to carry out, check the scoring, or sign the results sheet(s) showing the scores.

Results Service

The results should be transmitted ashore as soon as possible by the recorders onboard the committee vessel. This may even be before they have been fully checked for accuracy as this can be undertaken soon afterwards with corrections made at that time. Once processed, a copy of the provisional results should be placed on the official notice board so that they are available as soon as the competitors come ashore. Provisional results remain as such until after all protests and requests for redress have been heard. Even then, corrections can be made to the results until the end of the regatta, and, in some cases, even after this time.

Protest Time

The Protest Committee Secretary will require the time that controls the period in which protests have to be submitted. This will depend on what is written in the SIs – usually a time period after the time the last boat in the class or event finishes. This time limit has to be posted on the official notice board.

Scores determined by the Race Committee

The Race Committee can only score finishing places as follows:

First place	1 Point
Second place	2 Points
Third place	3 Points
and so on . . .	Plus

DNC – Did not compete – did not come to the starting area
DNS – Did not *start* – came to starting area but did not start
OCS – Did not *start* – On Course Side at starting signal
ZFP scores – 20% penalty under Rule 30.2 (Z flag)
UFD – Disqualification under Rule 30.3 (U flag)
BFD – Disqualification under Rule 30.4 (Black flag)
SCP – Scoring penalty applied
NSC – Did not *sail the course*
DNF – Did not *finish*
RET – Retired

All the above except ZFP and SCP will be scored the number of entries plus one. Note no DSQ - only the Protest Committee may make other scores worse than finishing place!

NSC – A boat can now be scored NSC without a hearing if the Race Committee are satisfied that she did not *sail the course.* Be careful of relying on a report from a non-race committee member. Do not score NSC when the reporter has the right to protest – they should protest. The Race Committee can still protest the boat but not as a result of a report from a person with a conflict of interest e.g. a coach.

There is no defined difference between the scores of DNF and RET. DNF is used for a boat that did not *finish* and RET for a boat that retires after finishing.

Scores determined by the Protest Committee

DSQ – Disqualification
DNE – Disqualification that is not excludable
RDG – Redress given
DPI – Discretionary penalty imposed

These scores can only be imposed by the Protest Committee.

Series Scores

A boat's series score is the total of all her scores less her worst score. The default position is always to have one discard. A sailing instruction regarding discards is only required if a different number of discards is desired.

The NoR or SIs may invoke RRS A5.3 to change the scores for DNS, NSC, DNF, RET or DSQ to be scored the number of boats that came to the start area plus one. This is common for a series which is longer than an event.

Final Results

When are results final? Results at the end of an event are normally considered final but scores are still subject to possible appeal against hearing decisions. Where an International Jury has been correctly constituted there can be no appeal to the MNA.

When the NoR invokes rule 90.3(e), this does allow for a time limit to be placed after which the scores shall not be changed. There is an exception for decisions under rules 6, 69 or 70.

Q3 Redress Hearings

In the event of a competitor questioning the scoring (when it is believed to be incorrect) the Race Committee must check the records and if there is a mistake the results must be corrected. This can be done without a hearing - Rule 90.3(c)

If it is possible, try to correct the reason for the redress hearing before you reach the protest room. Allow competitors to listen to your tapes at any time during the regatta - many will be entirely satisfied that they are wrong if that is what your tape(s) demonstrate. If they are correct, then you should score them appropriately without the need to for a sailor to continue with their submission requesting redress.

The Race Officer may have to appear at any redress hearing. Prepare thoroughly for a request for redress. Before entering the protest room, have your evidence prepared in strict order of action, with any tapes you expect to use re-wound to start at the correct place.

Always state your normal procedures, the conditions at the time of the incident and what happened. Be factual in your evidence. Always be positive in your statements to the Protest Committee or International Jury. Because you are presenting factual evidence you should avoid being drawn into arguments. Do not take it personally.

Q4 Race Committee Protests

Since the primary responsibility for protesting breaches of the rules rests with competitors, the Race Committee will not normally protest a competitor. It is considered best practice to only protest a boat for a blatant breach of the rules that affects the fairness of a race such as failing to take a penalty after knowingly touching a mark where no other competitor is in a position to protest. The Race Committee would also normally protest a competitor for a breach of good sportsmanship.

Q5 Debrief and Evaluation

Get the opinions of others, both competitors, your race team and other event and race officials. Be prepared for criticism. Listen to it, it can be very useful.

A meeting with your race team ashore after racing is an ideal way to find out if anything went wrong that you were not made aware of. Talk about the day's activities with the rest of the team, highlight things that went well and things that were not so good and discuss how to improve on any deficiencies.

Always make yourself available to talk to the competitors and their coaches (who are not usually shy when it comes to giving feedback). Talk to the Protest Committee Chair. The Protest Committee, particularly if they have been on the water, may have some comments to make about the way the race has been managed.

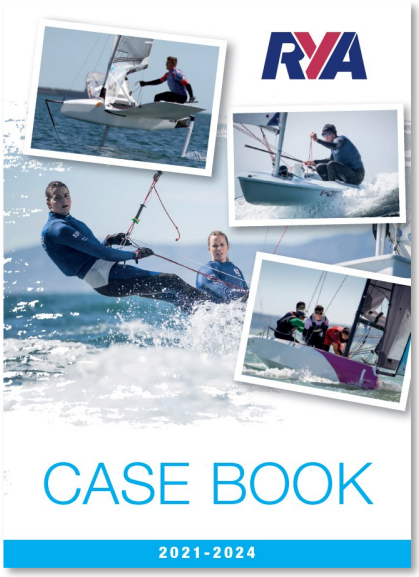
Further information, guidance, resources and advice is available in the Race Officials section of the RYA website.

RYA Racing Publications

Under the umbrella of its Racing Charter, the RYA produces the following guidance books on running racing under the racing rules of sailing. The guidance offered is the opinion of experts and is not a binding interpretation of the rules, nor will it be appropriate for all racing.

These books are available in pdf format and as an RYA eBook.

All versions and other racing rules information can be found at www.rya.org.uk/go/rules or www.rya.org.uk/go/raceofficials



The Racing Rules of Sailing 2021—2024, including the RYA Racing Charter and RYA prescriptions to the rules, can be purchased in spiral bound paperback format on waterproof paper from the RYA Shop.

The Handy Guide to the Racing Rules is available as a pocket booklet or an eBook.

The Racing Rules Explained is available as an eBook.