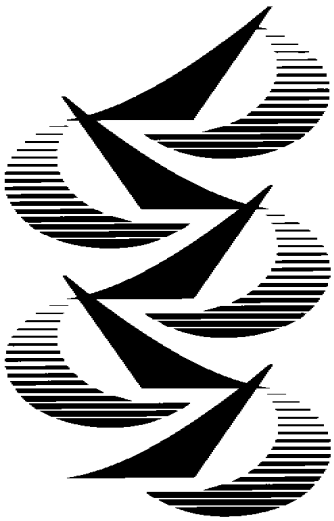

INTERNATIONAL SAILING FEDERATION

RACE MANAGEMENT MANUAL

EDITION 3/2002

Edited by the ISAF Race Management Sub-Committee

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TABLE OF CONTENTS

SECTION F: APPENDICES

INDEX

INTRODUCTION

Preface to the first edition, 1994

Finalization of this first edition of the ISAF Race Management Manual is an accomplishment that - we trust - will help improve the level and standard of yacht racing worldwide. There are few areas of sailboat racing where local conditions, customs, habits and personal ways of doing things are as predominant as with regatta organization and race management.

We should always bear in mind that yacht racing is organized first and foremost for the sailors. Everything possible should be done to make sure the sailor gets what he expects and deserves: well organized, well run regattas and races. The comment that is heard most often about regattas is that there are so many different ways of doing and saying exactly the same thing. Sailors travelling from one venue to the next will find different starting procedures, different signals and different sailing instructions dealing with the most common subjects.

What this calls for is standardization! Now, absolute standardization of sailboat racing would be like trying to jam a square block through a round hole: it will never fit. There are so many different types of sailboat races at so many different venues with so many different conditions that any attempt to create rigid guidelines for organization and management is bound to fail, simply because only very few Race Committees will be able to use them.

Yet there are areas where things *can* be standardized a little. One major step forward would be if organizers started writing their sailing instructions in the same order using the same terminology. The ISAF Rule Book includes an Appendix (K) with a standardized format for sailing instructions. This Manual will refer to this RRS Appendix.

This Manual is an attempt to provide advice and guidance to organizers who feel they might improve their performance, but also to those who have only recently started running sailboat races. In other words: it is meant to cover all different levels of yacht racing, from small dinghy club level sailing to major regattas at Olympic level. To achieve this, the manual must include information that is useful for organizers of big events, but at the same time it should not put off those who are simply looking for some guidance for their Wednesday evening club race.

The main text of the manual has been deliberately kept rather short, referring to appendices when appropriate. The advantage is that those who want comprehensive checklists can find these in the back of the manual, while others who are only looking for the basic information will be able to find all they need in the main text.

*) In the meantime, the former IYRU has changed to ISAF – International Sailing Federation.
**) The current *Racing Rules of Sailing* contains a Sailing Instructions Guide in its *Appendix K*.

Race Management is an area where much development has taken place over the past years. Most of this was induced by the demand for better regattas by the sailors. On the other hand, the fact that yacht racing was brought to the attention of the media has urged organizers to take a closer look at their methods and techniques. Yacht racing is developing from a strictly amateur 'Corinthian' sport into one in which highly skilled professionals take part.

This means that a manual like the present one will never be complete, perhaps lagging slightly behind

and overlooking things that are important for certain areas of the sport of sailing. The ISAF is committed to keeping the Race Management Manual a living document by regular updates. It would be most helpful if people who feel that their specific field of knowledge could be covered in a better way by the manual contact the ISAF office and make suggestions for extension and improvement. We are aware that the current contents of the manual are shaped mainly around small-boat one-design racing. In new releases to come there will be special sections dedicated to offshore racing in rating classes, and to multihull and boardsailing.

The ISAF Race Management Manual is meant to be a working document for regatta organizers and race management personnel worldwide. It is a technical manual rather than a complete scenario for the official functions, ceremonies and social activities that come with some yacht racing events. These matters are equally important in the total framework of the sport - sailing needs as much support as possible from authorities and sponsors; it is also foremost a participatory sport in which the social aspect is as important as the racing itself. However, it was felt that there are too many differences based on culture, local custom and financial situation to provide uniform guidelines in a manual such as this one.

The responsibility for the contents of the Race Management Manual - and keeping it up to date - lies with the Race Management Subcommittee, a subcommittee of the ISAF Racing Rules Committee. Two other ISAF Manuals already exist: the Judges Manual and the Umpires Manual, both issued under responsibility of the International Judges Sub-Committee. Attempts have been made to avoid both unnecessary conflict and overlap between the three documents. Whenever appropriate, reference is made to these other ISAF Manuals.

This manual was written using, among others, material that was kindly made available to the ISAF by the New Zealand Yachting Federation and the Royal Spanish Yachting Federation. The ISAF is indebted to all those who contributed in some form, way or manner to the completion of the Race Management Manual. May the ISAF Race Management Manual contribute to better and fairer yacht racing all around the world!

Karel H. Beukema toe Water

Chairman, Race Management Subcommittee (1991-1995)

Preface to the 1997 edition

The development of good race management practises is an on-going project. ‘When should a race be abandoned?’ and ‘What’s the best way to monitor a start line to avoid OCS redress requests?’ are examples of problems for which guidelines are being developed and are included in this new manual.

The compilation and periodic updating of this manual is the responsibility of the Race Management Subcommittee. But of course, as is usual in projects of this nature, an individual takes on the job of doing the work. I’d like to express my sincere thanks to Jost Wahlen who undertook the task of updating the Race Management Manual to encompass the new racing rules and include a significant number of procedural changes and advice.

I’d also like to take the opportunity to thank those people who contribute a great amount of time and effort to the development of the sport in the area of race management, but in particular the members of the ISAF Race Management Sub-committee who bring a wealth of experience and expertise to this area of the sport: Hans Kurt Andersen, Michel Barbier, Elias Caronis, Charley Cook, Tony Lockett, Jim Park, & Jost Wahlen.

’Race management’ is the term we use for the whole organisation of an event, not just running races on the water. This manual is, therefore, by necessity, rather large, and to some readers much of it may be irrelevant to their needs. But those who are interested in race management as a vocation will find a wealth of interesting information, and for those responsible for running a major event or aspiring to becoming an ISAF International Race Officer, most of the contents are essential reading.

* * *

We should always bear in mind our overall aim, whatever the size or apparent ‘importance’ of the event. The test as to our success is to ask ourselves whether the winner was worthy and whether everyone enjoyed the event. At major events ‘everyone’ includes a wide range of people: competitors, sponsors, the media, spectators, coaches, judges, organisers, and helpers.

They are all a part of the great sport of sailing.

Bryan Willis

Chairman, Race Management Subcommittee

Preface to the 2002 edition.
When the first edition of the Race Management Manual was finalised, by Karel H. Beukama Toe Water, its main aim was to "help to improve the level and standard of yacht racing worldwide".

For this new edition, based on 1994 text, adapted with the new rules, the aim is still the same, and we hope that it will provide organisers and race committees answers they are waiting for.
This guide is resulting from the work of the ISAF Race Management Sub Committee, the diversity and experience of its members ensuring the "international" aspect of the document.

It is, before all, a booklet of thought, the "ideal" solution does not exist, and we are still searching new ideas, trying to improve and simplify our job for the benefit of competitors.
An important example of simplification is the introduction of Standardised Sailing Instructions, which we strongly recommend the use of.

Absolute uniformity is not our dream but just think about the benefit of consistency and simplification for interclub and international competitors ... It's sometimes important to change his our way of doing things to be consistent with accepted practices, even if your club has always acted in a different way.

Flexibility is a key function of race committees by paying attention to particular needs of competitors, judges, measurers and organisers at each event.

Our part is essential for the evolvement of our sport, we shall not overrate nor underrate ourselves, may this guide help you in finding this balance!

Real thanks to the whole team of the Race Management Sub-committee : Helmut Jakobowitz, Antony Lockett, Guiseppe Masini, Miklos Nemeth, Luis Ormaechea, Mark Pryke, Robin Wallace, Nino Shmueli, and especially to Bill Bell for updating this manual.

A special thought for Elias Caronis, who always knew how to envisage the future of our sport.

Michel Barbier
Race Management Sub-committee Chairman

How to use this Manual

This Manual is meant to give guidance and advice to regatta organizers and race management personnel. It covers important issues from the pre-race planning to the things to do at the end of the regatta.

At the beginning of this Manual, the **Table of Contents** gives an overview. An abstract will be found at the beginning of each chapter.

Section A deals with Pre-Race Planning and Organization, responsible authorities and the main objectives of organizing committees. It lists the personnel needed and its organization by committee structure, race office and boat facilities, suitable vessels and race documents. Finally some aspects of different competition formats and aspects how to select the race area are mentioned.

Section B is about Race Operations such as the start, selecting laying the course, starting procedures, fleet surveillance during the race and the finishing procedure. In this section, the most important on-the-water activities are discussed. Emphasis is laid on different course shapes and on a new starting system that may give the Race Officer more flexibility.

Section C mentions some tasks to be done after a race or at the end of a regatta, such as preparing the final results and organizing the prize-giving ceremony.

Section D is concerned with Racing Rules relating to race management and Race Management Policies for important matters of race management that may have a major influence on the standard and success of the races. These Policies have been a matter of discussion for years, and will surely stay a central issue to all involved in race management on-the-water. Comments on these policies and suggested improvements are encouraged.

Section E is doubled from the ISAF Umpires and Match Racing Manual to cover race management matters related to match racing.

Section F contains appendices referred to in the chapters of the main text.

Of course, you may read this Manual in a sequential order or just concentrate on the items you are interested in. An **Index** at the end of this Manual will assist you in finding particular topics.

Our ISAF Race Management Seminars, which are held several times per year on different continents, are based on the subjects covered by this Manual.

Section A

Pre-Race Planning and Organization

1. AUTHORITY AND RESPONSIBILITY

Abstract
Four authorities which usually govern major regattas are named as well as the committees which take the responsibility of organizing and running the regatta in line with the requirements of these authorities. Finally, the prime objectives of regatta organizers are discussed.

For most major regattas, four bodies share the authority.

The first of these is the **International Sailing Federation (ISAF)**, which provides, revises and publishes every four years the *Racing Rules of Sailing* (referred to as *'Racing Rules'* or *'RRS'*) under which the racing will be conducted.

Also with authority through the *Racing Rules* is the respective member **National Authority** of the ISAF. Through its prescriptions to the *Racing Rules*, it states how certain rules are to be interpreted or applied, and it may change some *Racing Rules* if considered appropriate and subject to *RRS 86*. Furthermore, it coordinates the dates and venues of national regattas, and may approve key regatta personnel such as the Regatta Chairman, the (Principal) Race Officer(s), and the Protest Committee Chairman.

The next body is the **host club** (or another organization). Affiliated to the national authority the club's input is generally through the Regatta Organizing Committee and this may be apparent through certain sailing instructions relating to local conditions. Finally **Class Associations** will want to ensure that their class rules, both in terms of measurement and their established practice for regatta organization, are observed.

The involvement of all four bodies is usually apparent in those sailing instructions, which refer to the control of the regatta. v(See, for instance, the heading of the draft Sailing Instructions in Appendix 5B.)

One or more of these four bodies will singly or collectively become known as the **Organizing Authority** and will set up the Regatta Organizing Committee. It is essential that the Organizing Authority conforms to the requirements of *RRS 87.1*; otherwise, competitors will not have the protection of the *Racing Rules* or the appeal procedures provided by the National Authority. This is easily complied with by ensuring that a National Authority-affiliated club is nominated as the Organizing Authority. *RRS 87.2* requires the Organizing Authority to publish a Notice of Race containing its name and further details *(RRS Appendix M1)* (see Appendix 5A).

The **Regatta Organizing Committee** will accept responsibility, usually through a number of sub-committees, for all aspects of the regatta. Sometimes this committee is called the Race Committee, but this term is better retained for the sub-committee which has the important task of race control. Other sub-committees might deal with all the other varied aspects of organizing a regatta, such as measurement, social events, press and sponsor contacts, etc., and these are discussed in detail in Chapter 2 of this Section.

Throughout the organizing and running of a regatta, the Regatta Organizing Committee should remember that its **prime objectives** are to:

(a) provide **fair competition** for all competitors;
(b) ensure the regatta is run in accordance with the *Racing Rules of Sailing* and rules of other relevant authorities, when they apply;
(c) ensure that all competitors can and do **conform to the rules** of the regatta;
(d) as far as possible give **satisfaction** to all competitors.
(e) ensure that **sailing instructions** are produced which follow the ISAF Appendix.

The **safety** of all competitors *(see RRS 1)* is a prime responsibility. It is the Regatta Organizing Committee's task to ensure that every person involved in the regatta is aware of the fact that safety comes first at all times. To ensure **fair competition** *(see RRS 2)*, the Race Committee must set fair starting lines, courses, and finishing lines, conscientiously observe all rules and follow good race management practice.

The Racing Rules of Sailing, the prescriptions of the National Authority and the class rules stipulate the requirements to meet the third objective above. **Rules compliance** - in the broadest sense - by all competitors is vital, not only to ensure fairness of the competition, but also to maintain the high standing of the sport of sailing with the general public and not to bring the sport into disrepute *(see RRS 69).*

Ensuring that clear, unambiguous and comprehensive **Sailing Instructions** are written must be considered a major responsibility of the Regatta Organizing Committee, although this task would normally be delegated to the Race Committee.

Satisfaction to all competitors is perhaps the most difficult objective to achieve. It is in this area that considerable judgment and experience is required. The vagaries of wind and weather will usually cause difficulties for the Race Officer, and frustrate competitors. However, the effect of these can be reduced with foresight and by following the detailed planning and procedures advocated in this Manual.

2 COMMITTEES AND KEY PERSONNEL

Abstract
This chapter is about the committees and the key personnel in charge of a regatta outlining their tasks and responsibilities. Not only is the Race Committee dealt with, but also the Protest Committee and the Safety Committee. How to build the relationship with the media and how to attract sponsors is discussed at the end of this chapter.

Contents

2.1 Regatta Organizing Committee

The Organizing Authority (*RRS 87*) is charged with the whole organization of the regatta, on and off the water and including the all-important balancing of the books . It will appoint a Committee, which will probably consist of six to twelve members. This Committee derives its authority in terms of *RRS 87.1* from the affiliated club or association that set it up, and to that organization it is ultimately **responsible for the whole conduct of the regatta**. Some of its members will be conveners of the various sub-committees referred to below. It will have its first meeting at least six months and possibly more than a year before the regatta begins.

Once the regatta is under way, it takes all decisions relating to the event, except those delegated to the **Race Committee**. It needs a competent, experienced **Regatta Chairman** (see 2.1.1) who is ready to answer for whatever occurs in the name of the Regatta Organizing Committee. Sometimes (one of) the Race Officer(s) is Chairman of the Regatta Organizing Committee, but some Organizing Authorities see advantages in having an independent Regatta Chairman.

The Regatta Organizing Committee's **principal pre-regatta functions** are:

a) to prepare the **Notice of Race** (*RRS 87.2, K1*) and to ensure that it is issued to all potential competitors and relevant associations, clubs, and national authorities. If appropriate the NOR should be posted on the host authorities web site. In the case of major events complete details should be forwarded to ISAF for inclusion in their publications and web site together with details of any links to the host web site. The NOR shall include an entry form and a closing date (see RRS K1.2). The closing date should be as close to the regatta as possible but also to allow sufficient time for the organizing committee to properly plan for the number of entries received.

b) to appoint **sub-committees** or personnel for the following (see *RRS 87.2*):
   - measurement + safety checks;
   - on-the-water Race Committee(s);
   - jury, when appropriate;

c) to ensure that all the **equipment** and **facilities** required for the regatta are available and functioning;

d) to approach harbour **authorities**, coast guard, meteorological offices and any other **organization**, cooperation with whom will lead to a more successful regatta.

2.1.1 Regatta Chairman

The Regatta Chairman will play a prominent part in staging the regatta, and must be knowledgeable in race management. He[*)] has special **responsibilities** which, exercised in consultation with his Regatta Organizing Committee, may be summarized as follows:

- contribute to the planning and decision-making relating to the on-and-off-the-water conduct of the regatta;
- convene the Regatta Organizing Committee when necessary, perhaps even at the end of each day, to confirm results and review the organization and procedures, so that whatever changes are necessary in the interest of fairer racing can be made immediately.
- The Regatta Chairman may hold any one of the positions listed below. However, in big regattas, the Regatta Chairman will have a heavy enough task coordinating the event not to be assigned any specific on-the-water duties.

2.2 Race Office

The following **types of services** provided by this Office can be distinguished as:

a) receipt of entries

b) reception and information;
c) registration;
d) results and information;
e) printing and photo copy support;
f) meteorology and weather reports.

A detailed chronological listing of all Race Office activities can be found in **Appendix 2A**. The equipment needed is listed in **Appendix 2B**.

As the Regatta Headquarters the Race Office is going to be a busy place with its own rush hours. Contact with competitors, press, and the general public should be concentrated in one area. Access to other Race Office areas should be limited exclusively to official personnel. Limited access *within* that section (e.g., during results processing, the Results room is off limits to everyone except Results staff and scorers) will also enhance efficiency, giving everybody the chance to do their job well.

2.2.1 Reception and Information

The window or counter is the **principal place of contact** between the organization and its guests: competitors, coaches, press, general public, etc. The role of this team is fundamental and must convey an image of efficiency and goodwill. Its size depends on the size and level of the competition. For some regattas the tasks required may be combined with those under 2.2.2 Entries and Registration. If there are two separate teams, they should make sure that the task of preparing all the necessary documents (see **Appendix 2C**) is clearly allocated between them.

The Reception and Information team deals with:

* issuingmeasurement instructions;
* giving information regarding accommodation and social arrangements;
* providing general regatta information, etc.

For a detailed listing of possible tasks, see **Appendix 2D**.

2.2.2 Entries and Registration

Here the work involves:

i) receiving completed entry forms and entry fees and collating a list of entrants
ii) receiving measurement forms signed off by the Measurer;
iii) receiving copies of advertising licenses, measurement certificates, insurance documents, etc.;
iv) issuing Sailing Instructions and other documentation, mementos, etc. (the issuing of promotional material, mementos, etc., may also be handed over to the Reception and Information team.)

Again, the number of staff required depends on the number of classes and competitors.

2.2.3 Results and Information

This is a fundamental service, and depending on the type of competition, the quantity of classes and race areas, there should be a compartment for each class or area. An outline of this team's tasks is given below. For full details on the tasks and equipment required, see **Appendix 2E**.

Before the regatta starts this team records all the data collected by the Entries and Registration desks, and on the basis of that it produces registration lists, individual dossier cards per competitor, lists of payments made, etc.

After measurement the information developed at each level or station should be immediately transferred to the Results and Information Team so as to benefit the competitors by providing immediate result information at the completion of the measuring process. Statistics on average competitor weight, height, and equipment tends to be greatly appreciated by competitors.

After each race this team, (with the assistance of the Jury Secretary, if applicable), is responsible for producing all the documents connected with race results including:

Posting of provisional and final results on the regatta notice board (and web site if applicable) at the earliest possible time.

Recording and posting of protest closing times

Receiving any protests and liaising with the jury

Posting protest hearing times

Posting protest results and advising scorers of any changes

After the last race the team's final report should include all the collected regatta statistics for officials, competitors and support personnel.

Location
The Results and Information team will require a large enough room to comfortably accommodate all the equipment. It must have direct access to the Race Office and the secretary of the Protest Committee.

To enhance accuracy and efficiency, the Results Room is usually labeled as a limited access area.

2.2.4 Printing and photocopy support

One heavy-duty photocopier in the Race Office will usually be sufficient, but more support may be required. The fast dissemination of results enhances the Race Office's level of efficiency and is always greatly appreciated by all.

The photocopying tasks involved at each stage of the regatta, and a list of materials needed, are given in **Appendix 2F**.

2.2.5 Meteorology & weather reports

The importance of this section depends on the type and level of competition, and the type of race area(s). It is most relevant in race areas not well known or tested, which will demand that the organization supply the competitors with the **maximum possible advance notice**. The inclusion of meteorological data with the Notice of Race is therefore recommended.

During competition the services of a specialist in micro-meteorology, or the local or national meteorological service, should be procured to provide a daily weather report.

This daily report should be put in the meteorological section of the official Notice Board, at least three hours before the Preparatory Signal. It is important to retain on the board the previous days' reports to allow a reference to the evolution experienced at least in the isobaric pattern.

Briefings

For major regattas, two daily briefings are recommended:

1. One is for the Race Committee(s), before going afloat, giving them a detailed forecast for their area.
2. The second briefing, with the same content, is the one for competitors and/or coaches, at least two hours before the start.

The type of information to be supplied at the briefing depends on the type of races and the type of boats that will be competing.

For a full listing of the type of information to be included with the Notice of Race and that to be given daily, see **Appendix 2G**.

2.2.6 Race Office – Major Events

During important events with several course areas and many competitors it is important to know the status of everything that is happening on all the course areas and with the event. This can be done with a coordinated communication network (radio or telephone) and staff grouped in a centralised Race Office. The team is led by the PRO and is called the Race Management Team (or Race Management).
The reasons for creating this centre are:

1. General Co-ordination

The overall event is controlled by the PRO from this office and allows for the centralisation of all information concerning the event. The PRO should act in consultation with all the course area Race Officers to ensure that consistent decisions are made in all areas and to provide the appropriate assistance, backup and support for the Race Officers if and when they require it.

2. On Water Safety

The Race Office should be the central area for obtaining weather information, forecasts and updates and they should ensure that this information is passed on to all Race Officers and that they kept up to date with regular weather information. It is in the Race Office that decisions are made by the PRO in consultation with the Race Officers whether to go on the water, to delay or postpone races in respect of each class or course area. As a consequence of this, it is the Race Office that co-ordinates all the onshore flag signals, whereas once it is decided to race, the on water decisions are generally made by the course Race Officers. Should there be an incident or accident during the event it is the Race Office that should instigate and co-ordinate the appropriate response and assistance. In the case of a serious problem it is important that the Race Office can be secured and isolated so that whatever actions that need to be taken can be carried out without interruption or interference.

3. Information

When setting up the office the media should be allocated their own area separate from the Race Office and they should be given regular meaningful updates so that they have no need to come into the actual Race Office and pester the Race Officials for information.
The information to be made available should include:

Courses to be sailed
Starting times
Wind strength and direction
Number of individual recalls (including sail numbers and whether they returned)
General recalls
Black flags and sail numbers of any boats penalised
Actual starting times
Mark roundings and times
Details of any incidents of interest
Finishing order and times
Protest time limit
Protest schedules and results
Individual and progress race results and standings
This information can be supplied by computer screen, internet, web site or in printed format.

The Race Office.
The ideal Race Office would have a view of the launching areas and also the race course areas. It should be large enough to accommodate all the personnel and equipment required, it should also be well ventilated and as soundproof as possible.

Equipment.
The equipment should include at least one radio on each course area operating on a separate dedicated radio channel for direct contact with the Race Office where the PRO has his own radio tuned to that channel (there could also be an extra one in the Race Office for general use), this avoids conflict with general on course race operations which are carried out on a different channel. The use of mobile phones can also be of an advantage. A large whiteboard or similar to keep track of situations is also handy while the information is input on computers so that it can be disseminated to the media, officials and others. Naturally, the appropriate computer equipment should be installed.

Personnel.
The Race Management Team should be made up of experience personnel who have a good knowledge of race management and the event and therefore the confidence and trust of the Race Officers. They should also know the extent of their authority to make decisions before involving the PRO.

2.3 The Race Committee

All sub-committees have important roles in a successful regatta but probably the most important is the Race Committee, appointed by the Organizing Authority (see *RRS 87.2*). The Race Committee is responsible for **what does or does not take place on the water,** it runs the races.

The Race Committee shall publish written **Sailing instruction** that conform to *RRS K2* and **conduct** and **score** the race or series as required (see *RRS 88*).

The **Chairman** of the Race Committee may, but preferably not for a major event, be the Principal Race Officer. He liaises closely with the Race Officer(s) who is (are) the "on-the-

water manager(s)". He supports and directs them off the water and authorizes changes to the Sailing Instructions. It may be desirable to appoint an International Race Officer for major events. ISAF may appoint an International Race Officer as Course Representative.

In the following sections we will refer to "the Race Officer", "the Gunner", etc. In the case of a regatta with more than one race area, these positions exist, of course, for each separate race area. The list of equipment required is given in **Appendix 2H**.

2.3.1 Principal Race Officer

If there are multiple courses being used at the same time the overall on water management of the regatta is the responsibility of the PRO who liaises with each courses race officer (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 such as whether the weather conditions are suitable for racing while the race officer is responsible for the actual conduct of the race on his course. It is therefore important that the PRO is a very experienced Race Officer and that he is recognized as such. The PRO will liaise closely with the Regatta Chairman

2.3.2 Race Officer

Ideally, the Race Officer is an **on-the-water manager**, who lets his team get on with the job without interfering, although he should take the decisions regarding boats on the course side of their starting line, course changes, etc., himself. The advantage is that he can at all times keep an overview of what goes on around the entire race course. If appropriate, he will liaise closely by radio with other Race Officers on nearby race courses, and with the Principal Race Officer. The Race Officer and the Assistant Race Officer should record all their actions on tape recorders for later reference. The tape recorders should be left on during all start, recall and finishing procedures. As the **responsible person for his race course**, he will usually represent his Race Committee at protest hearings, although he may prefer to appoint a delegate. At high level events it may be required that he holds a national license or even the ISAF qualification of *"International Race Officer*".

Before the first race he will **brief his Race Committee** on their jobs, making certain that all tasks are covered. He also ensures (whether or not through delegation) that all the necessary **equipment** is available and functioning.

He may wish to appoint an **assistant Race Officer** on the Line boat at the pin end of the starting line, who will help him identify boats on the course side of their starting line by radio.

2.3.3 Signals Officer

The Signals Officer will be responsible for ensuring that whatever **visual signal material**, or means of displaying such material, is required (flags, hoists, etc.) is available and functioning and that the personnel handling it are adequately briefed. The Signals Officer takes responsibility for ensuring that the **starting procedure** as outlined in the Sailing Instructions is correctly conveyed to the competitors by means of the appropriate flags or shapes which are ready for breaking, lowering or furling at the correct time. He remains closely tuned to the **Timekeeper** and the orders of the **Race Officer**.

2.3.4 Gunner

The Gunner is also closely attuned to the **Timekeeper** and has responsibility for all the **sound signals** that accompany the visual signals. He may also assist with surveillance of the start, observing and calling boats on the course side of the starting line.

If guns or other fire arms are used to make sound signals, it is the responsibility of the Gunner to ensure the **safety** of their use for him and his fellow committee members on board as well as for the competitors. Even blank shells can cause serious damage when fired at close range. The Gunner must thoroughly familiarize himself with the **operation** of his guns, particularly with regard to reloading after firing a shell.

Nowadays, some Organizing Committees try to substitute guns by very loud **horn signals**. That could save costs and waste, but experience shows that it is recommendable to have a gun at least for the starting signal.

2.3.5 Timekeeper

This is an important position. More starts have been spoiled by the Timekeeper being distracted by unnecessary chitchat than any other single cause. It is a position which requires **single-minded concentration** and a **good clear voice**. It is good procedure, at any point of time requiring action from somebody, for the Timekeeper to give a **countdown**. The nature of the countdown may vary in length and complexities depending upon how many people have to make a response, how difficult the conditions are or how experienced the team is.

The **countdown** may be: "One minute to warning signal; 30 seconds to warning signal; 15 seconds; 10; 9; 8; 7; 6; 5; 4; 3; 2; 1; Now!"

The tasks of Gunner and Timekeeper may be **combined** if the person appointed as such is competent and confident enough to fulfill them both.

2.3.6 Recorder

The Recorder is responsible for the **paper work on the water**. A competent Recorder will not only note the competitors reporting at the start and the entire starting procedure ("I flag used after 1st General Recall", etc.), but also much of the communication passing from the Race Officer to the other officials including wind readings, bearings of marks, competitors' rule infringements, protest flags and 720° or 360° turns penalties spotted, all noted against the appropriate time. In other words, a good Recorder compiles a **diary of the race**.

He is also responsible for writing down all the **boats identified** by the Race Officer or his delegate being on the course side of the starting line at (or during the minute before) her starting signal. If *RRS 30* applies and there are boats 'on the course side', he has to record e.g. if boats complied with *RRS 30.1* (I-flag) after being recalled, if they shall be given a 20% scoring penalty (*RRS 30.2*; Z-flag) or if they will be disqualified (*RRS 30.3*; Black flag). If boats have been disqualified, he also has to **display their sail numbers** if a general recall is signaled or the race is abandoned (*RRS 30.3*).

The Recorder should ensure that he has a **back-up person** to record those boats on the Line boat. If he also has to record the finishing order, he should have a back-up both at the pin end

and on his own boat. If the Starting vessel does not also act as Finishing vessel, the Finishing vessel, too, should have two Recorders and a back-up at the pin end. Tape recorders should also be used to record finishing positions as they are called while actually crossing the finishing line. This is very handy for sorting out any confusion later on particularly where a lot of boats have finished in a close group.

2.3.7 Course-setter

For the "triangle-sausage" course, the Course-setter needs to be able to set an **accurate course** following the Race Officer's directions regarding time/distance and compass bearings. Course changes, too, can be easily calculated with the help of a wind shift table.

With the much shorter new courses (trapezoids, combinations of windward/ leeward, etc.), especially with more than one class on the course, the Race Officer does not have the time to calculate and pass on data on angles and distances to the Course-setter, and he may want **fast changes** at a very late stage. Instead of consulting the tables or waiting for instructions, the Course-setter must have the confidence to take up and shift marks to the right position as soon as the Race Officer says "Go".

Ideally he should have enough information, nautical skills and the necessary equipment (course illustrations, compass, sea charts, and even GPS-devices, if appropriate) to operate **on his own** and to be independent on detailed orders from the Starting vessel. His contact with other Course-setters, his own eyesight and judgment will play a much greater role than before, and he can have a decisive influence on the success of the race.

See also Section B, **Chapter 8** on Courses for detail of requirements.

2.3.8 Lineboat crew

A boat at the pin end of the starting line may act as Lineboat to assist at the start. Ideally, and when equipped with suitable hoists, etc., it will **copy** as many Starting vessel **signals** as possible. See also Section B, **Chapter 9** on Starting Procedures.

2.3.9 Beach Master

The responsibilities of this officer can be as varied and as onerous as he likes to make them, but the contribution of him and his team to the success of a regatta can be tremendous. He is one of the **principal shore-based officials**.

Prior to the event, the Beach Master should **know** the estimated number of keelboats competing and their place of mooring; the amount of dinghy parking needed; the amount of space required for RC boats, Patrol boats, coach boats, etc.

His **tasks** include ensuring the orderly and systematic launching of boats, lending a hand when it is reasonable to do so, retrieving boats on return, ensuring that any allocated spaces are occupied, advising on where assistance might be obtained for repairs and replacing equipment, perhaps even holding a few tools himself and a willingness to produce them.

He also takes care of important **safety checks** such as noting who has and has not entered the water, and similarly, from beach trolleys and cradles still vacant, who is still to return. It is

helpful for the Beach Master to have **radio contact** with the Race Officer even when this is additional to the main shore-based radio. He should advise the Race Officer when the last boat leaves the beach. See also this Section, **Chapter 3.2-3.3** (boat, car and trailer parking).

2.4 Judging - The Protest Committee

The term "**judging**" is used in the sport of sailing to include a wide range of services to competitors, including the hearing of protests and requests for redress, deciding questions of eligibility and boat measurement compliance, and being present on the water watching for rule infringements - especially those of *RRS 42* (Propulsion).

The term "**Protest Committee**" is used to describe the body which conducts the hearings, whether it be a committee appointed by the Race Committee, the *Race Committee* itself conducting a hearing, an independent committee (*Jury*) or an *International Jury (see RRS 89 and M)*.

The degree to which an organizer should provide a full range of judging services to competitors very much depends on the type of the event being conducted.

2.4.1 Protest Committee

A Protest Committee may **be appointed** by the *Race Committee* to *hear protests* and *requests for redress* when neither an independent *Jury* nor an *International Jury* has been appointed by the Organizing Authority. The *Race Committee* may **itself act** as Protest Committee, but when its own conduct is in question, it should arrange for an independent *Jury* to be appointed. This type of Protest Committee is only suitable for club level racing.

2.4.2 Independent Protest Committee (Jury)

At an "open" event to which sailors come from other clubs, it is desirable for the Organizing Authority to appoint an **independent** Protest Committee (known as a "*jury*" (see *RRS 89 (b)*), but not to be confused with an "*International Jury*"); independent, that is, of the *Race Committee*, and, if possible, made up of people from different clubs.

The independent Protest Committee's job is to ensure that **competition is fair**; its members are **often afloat** during racing and will initiate protests when they see rule infringements of a nature that affects the fairness of the competition.

Many National Authorities have a **National Judging scheme** and appoint National Judges and some require that at national events, the membership of an independent Protest Committee includes a majority of National Judges.

2.4.3 International Jury

Appointed by the Organizing Authority and **approved** by the National Authority, if required (*RRS 89 (c)*), its role is the same as that of an independent Protest Committee, although its responsibilities may be considerably extended by the Organizing Authority. An *International Jury* is expected to be able to **resolve**, or **give advice** (when so requested) to the *Race Committee* or the Organizing Authority on a wide range of **problems** which may occur at

major international regattas, where there are ever increasing pressures on sailors to perform well.

The membership of an International Jury is made up of experienced judges from **different nations**, the majority of whom hold the ISAF qualification of *"International Judge"* (see *RRS M* for composition, responsibilities and procedures). There is no facility for a competitor to appeal against the decision of a properly constituted *International Jury* acting within its jurisdiction.

At a **major international event**, it is highly desirable (and often required by a Class Association or National Authority) to appoint an *International Jury*.

2.4.4 Interaction Protest Committee and Regatta Organizing Committee

Many Regatta Organizing Committees send **draft Sailing Instructions** to the PRO, RO and the International Jury members that have been invited for comments. This avoids lengthy debates at the initial Jury meeting on location and long lists of "Amendments to the Sailing Instructions".

It is important to schedule a meeting between the Jury and the PRO/RO prior to the first competitor/coach meeting.

The use of the standard RRS Appendix K draft sailing instructions avoids many problems and helps minimise subsequent debate and discussion.

Information on and arrangements for lodging, transportation and regatta location must also be provided well in advance. If appropriate the Regatta Organizing Committee should ensure that the arrival schedules of the Protest Committee members are known in order to organize the pick-up from airports, railway stations, etc.

2.4.5 Protest Committee duties

Once the Protest Committee has arrived at the venue, they should meet to **discuss** the following:

* their authority and role;
* nomination of (vice-)chairman and, if appropriate, panel chairmen;
* delegation of areas of responsibility to members;
* protest policy (*RRS 14, 31, 42, 69, 79, G*, etc.);
* appointing one member as scribe if no Secretary is available.

Notices by the Protest Committee, correctly numbered and signed by its Chairman (and, if appropriate, also by the Regatta Chairman, PRO or RO) go to the **Protest Committee Secretary**, who distributes copies to the Notice Board, the Race Officer and the Race Office. The original is to remain with the Secretary.

It may be convenient to arrange for a **preliminary meeting** between the Regatta Chairman, the Race Officers, the head of the Race Office, the Jury Secretary and any other key personnel to discuss:

* on-the-water procedures (course changes, limitations on racing, etc.);
* the procedure of processing the protests;

* (changes to) Sailing Instructions, if any;
* any reports of the Race Committee to the Protest Committee;
* Jury Race Committee relations;
* radio procedures;
* Jury equipment.

These days most Protest Committee members **go out to the race course** to familiarize themselves with the courses and the types of boats sailed, and to observe the weather conditions in which the races are conducted. Depending on their policy they may want to actively monitor rule infringements (*RRS 14, 31, 42*, etc.). In order to do their job, they should be supplied with adequate boats, usually rigid inflatables.

For further details on recommended Protest Committee procedures, see the **ISAF Judges Manual**.

2.5 Umpiring

Event organisers of match races (one boat vs. one boat) and team races often use the system of umpiring, in which **penalties** are imposed **during the race**, avoiding, for the most part, the need for conventional protests (see *RRS C7-C10*). Umpires may hold a national qualification or even the ISAF qualification of *„International Umpire"*.

The requirements for the type of **umpire boats** to be used depend on the sea conditions of the venue and on the type of boats competing. For smaller competition boats, the type of inflatable with a hard bottom and wheel steering is adequate. For larger boats (10 m and above), a good umpire boat is a 8-9 m sport fisherman with a fly bridge and twin screws.

Umpires also require **sets of flags** (blue, yellow, green, red and black), radios, etc.

The recommended procedures for the preparation of umpired match and team races are described in the **ISAF Umpiring Manual**.

2.6 Measurement Committee

The Organizing Authority of a major event may appoint a Measurement Committee or a **Measurer** to measure boats, either as a part of a standard across-the-board measurement procedure, or in case of a dispute about measurement. It would be usual for a Protest Committee to consider this Measurement Committee or Measurer to be the "qualified authority" to which it would refer a measurement question.

The National Authority's **Chief Measurer** for the class(es) concerned will be a member of the Measurement Committee. At International Class Championships an ISAF Class Measurer usually is in charge of measurement procedures.

The Chief Measurer will require a sufficient number of competent **personnel** to handle all the **measurement requirements**. For pre-regatta measurement, depending on the relevant Class Rules, these will e.g. include scantlings, design and construction, fitting accessories, sail measurement and weighing. Often a jig is required for rapid, efficient assessment of design compliance. Post-race checks by the Measurer and/or members of his team may include

checking buoyancy aids, other safety equipment and the weighing of wet clothing (see *RRS 43, J*H.

In order to have sufficient crew, equipment and suitable space for efficient measurement at the start of the regatta, **communications** between the Chief Measurer and the Regatta Organizing Committee at an early preparation stage are essential.

The **responsibilities** of the Measurer or Measurement Committee may include carrying out checks (such as sails set within black bands, distribution of ballast, weight of clothing, etc.) on boats, usually immediately after finishing. See *RRS 43, 78*. The Measurer is a member of the regatta committee and reports direct to the Regatta Committee.

2.7 Safety Committee

The Regatta Organizing Committee should appoint a capable **Safety Officer**, who will be responsible for safety and rescue operations. He must be familiar with the regatta venue, with the characteristics of the class(es) competing and any applicable governmental or similar rules. The cooperation with local or private non-profit Rescue organizations is highly recommended.

2.7.1 Safety Officer

The Safety Officer must be familiar with the **safety regulations** under which the regatta is being sailed, that is to say the safety requirements of the National Authority, of the Class rules, of the Sailing Instructions and of any authority over the regatta water such as the local harbour board.

It is highly desirable that any possible **conflict** between these be resolved before the regatta and that the Sailing Instructions give the final word, including resolution of any conflict.

The Safety Officer's **responsibilities** before, during and after the races are listed in **Appendix 2I**.

2.7.2 Personnel and equipment

The following **list** should be filled out and be available to all relevant personnel:

Patrol boat of the Safety Officer (if not on Mother boat) **(P1)**
Chief _____
Substitute _____

Patrol boat (P2)
In Charge _____
Substitute _____

Patrol boat (P3)
etc. _____

Mother boat (MP)
In charge _____

Medical _____
Captain _____
Auxiliary _____

Crews
The crew of a Patrol boat should consist of 2 persons. Preferably each patrol crew member should:

* be 16 years or older;
* be a good swimmer;
* have knowledge of safety and rescue operations;
* be experienced in the operation of Patrol and sail boats;
* have racing experience.

Number of Patrol boats
This depends on the competition level, age and number of competitors, etc.

Watercraft
The Patrol boats must be i**nflatable** or **semi-rigid**, of more than 4 metres overall length, with a **motor** of adequate power for the boat length and powerful enough to tow several boats (minimum 20-25 hp). Sometimes, especially if the distance from the racing area to the harbour is considerable, Patrol boats are not allowed to tow competitors' boats back to the harbour. In this case you should arrange for additional other (perhaps bigger rigid) boats to do the job of **towing** several (damaged?) boats over that distance.

Necessary materials
For a description of what equipment every Patrol boat should have on board, see also **Appendix 2I**.

Mother boat
The Mother boat will be **anchored** in the proximity of the **leeward mark(s).** The Patrol boats will bring rescued boats and competitors to this boat, thus avoiding the moving of the Patrol boats to shore. If the Safety Officer is not in one of the Patrol boats, he will be on the Mother boat. The Mother boat will also have a **doctor** or adequate **first-aid personnel** on board.

An **equipment list** for the Mother boat can also be found in **Appendix 2I**. When there are several race areas at the same time, a base ashore can help to coordinate Patrol boats, Patrol personnel, supplies or ambulance assistance.

2.7.3 Patrol plan

Before the start: When the boats start to sail to the course, the Patrol boats split into 3 groups. Each group **follows** one third of the fleet to leeward.

Depending on the type of race course used, the course will be subdivided in several areas, with each Patrol boat assuming **responsibility for one area**.

After escorting the competitors to the race area, boats may **patrol** to outside, or to leeward of, the starting line. Alternatively, they may stay with the Mother boat if it has their Safety Officer on board, or near the Safety Officer's boat.

After the start: With the valid start, at least two Patrol boats will split to either side of the course, while the third one follows the tail-enders going through the middle. All cruise at low speed, **controlling** fundamentally the **last third** of the fleet.

The procedure after that depends on the type of race course used. However, whatever the course type and the number of Patrol boats available, the members of the Patrol Team should always be fully briefed on the Safety Officer's plan before going afloat. The Patrol plan must ensure that **all areas** of the race course are **covered** by at least one Patrol boat at any time.

After the finish: All groups then begin to **accompany** the fleet back to the harbour, in the same way as they did coming out, or back to the starting area for the next start. The Mother boat will be the last boat to withdraw from the race area.

2.8 Vessels Committee

A successful regatta requires a number of **support vessels**. Ensuring that these are available is sufficient a headache to warrant the appointment of a conscientious and hard working committee, knowledgeable in the characteristics of the local craft and their ownership. It may not be sufficient to know that a particular vessel is suitable and available if the **owner/skipper** is unsympathetic to the precision of timing and placing required in a major regatta. The selection and control of these vessels is an integral part of the on-the-water administration of the regatta. One of the Vessel Committee's principal functions after having obtained the number of vessels required, will be to roster them to their particular duties throughout the period of the regatta.

2.9 Social Committee

2.9.1 Social activities

Competitors will first and foremost want good racing conditions. Nevertheless they will expect and appreciate opportunities to **mix socially** and to **enjoy** themselves **off the water**. The programme for barbecues, receptions, formal dinners, the prize giving and any other functions should be the responsibility of a Social Committee. An attractive **social programme** will help to make a regatta memorable for all competitors, even those who are not among the prize winners. Always remember, however, that the social activities are complementary to the sport activities, and should be adjusted accordingly if necessary.

The Social Committee's **responsibilities** are listed in **Appendix 2J**. They include the preparation of a proposal to be presented for approval to the Regatta Organizing Committee. What this proposal should include is also listed in Appendix 2J.

2.9.2 Opening ceremony

The first formal element of the regatta may set the **tone for the entire event**, so planning the opening ceremony is worth careful consideration. Options for the opening ceremony are given in **Appendix 2J**.

2.9.3 Closing ceremony

The closing ceremony is when everybody leaves behind the tension of the competition and **honors** those who have won. It is also a good moment to **thank** all those who have worked together to make the event a success. Be careful not to make this part of the ceremony too lengthy, as it quickly becomes boring. A list of possible **components** of a closing ceremony is also given in **Appendix 2J**.

2.10 Press & Publicity Committee

2.10.1 General

Good publicity promotes the Class(es), the Club(s) and the sport. To be effective the organization must ensure a build-up of **information** through a series of releases and interviews at planned intervals. This can be quite demanding on the personnel appointed for publicity.

Before the regatta, advance **mailings and web postings** should include information about the Class(es) and profiles of their most successful competitors. Also included should be a map indicating all possible arrival routes and the Notice of Race.

A few days before the regatta, **signs** directing competitors, press, and others to the location add efficiency, especially if there is more than one class and they are expected at different venues. Be sure to check with the local authorities for approval.

Note that the posted signs should be of a **size large enough** to be seen at a distance of 200 m, at 80 km/hour. It helps to make them easily recognizable by the use of the Club burgee, Class emblems, event logo, etc. Use reflective paint on a contrasting background for a good visual effect during day and night, and ensure that the signs are affixed to a strong support (ca. 1.70m high) that will withstand the weather.

At the regatta site clear **identification** of the individual **services** enhances efficiency, and is easily accomplished by labeling the various rooms/buildings occupied by the RC, Reception & Information, Protest Committee, etc. The same goes for changing rooms, first-aid post, etc. Also make use of signs saying "RC only", "results room ─ no entry", etc., if appropriate.

Once racing starts, regular race **reports** should be written and distributed, which may include descriptions of incidents, leader board changes during the race, etc., quotes from competitors and coaches, and of course, the finishing order per race as well as overall standings.

At the end of the regatta, collected **press cuttings**, **results sheets**, etc. should be readily available.

2.10.2 Relationship with media

It is advisable to designate a **Press Secretary** who should have contacts with all media. As the spokesperson for the organization his primary objective is to obtain the maximum possible dissemination of information. **Functions** of the Press Secretary could be:

* media contacts;
* negotiations with T.V. stations for coverage;
* selection of a press team;
* arranging for a professional photographer;
* arranging for the making of an event video;
* producing a press brochure;
* arranging press meetings before, during and after the regatta;
* producing press releases after each race;
* producing final report after the regatta to be sent out to the media.

Further details on all these tasks can be found in **Appendix 2K**.

2.10.3 Press Office and facilities

Needs will be determined by the regatta size and level. For a big regatta Press facilities should include:

Reception area attended by a Press Officer exclusively assigned to that task.

Library area with up-to-date newspapers, magazines, brochures, regatta information, etc.

Press room (size and equipment depending on the number of press people expected) with chairs, tables, typewriters, telex, telefax, computers, e-mail/internet access, individual telephone booths, telephones, photocopiers, mailboxes, bulletin boards, photographic materials, dark room. Arrangements for billing telephone and fax services should also be in place.

Press and TV boats. Advisable are:

* Film & photo press boat, 6-7 m long. This should be a fast boat capable of more than 20 kts. It should have a semi-enclosed cabin, and room for 6 photographers (max.).
* Written press & radio boat, capable of 20+ kts, with a capacity for 10 to 15 persons. It should have a closed cabin.
* TV boat with the same characteristics as the one for the graphic press. Avoid having TV crews representing different stations on the same boat. Mix with film & photo press boat if necessary. This boat must be provided with a two-way communication system to have contact with the press room. It should be clearly marked ("PRESS-TV").

2.10.4 Press accreditation & credentials

In most big sports events the use of credentials has now expanded to **identify all persons** related to the organization and their **access** to the various areas. Credentials may be necessary if the Regatta Organizing Committee wants to:

* identify everybody involved in the organization;
* control access to the various sites;
* sectorize access to certain areas by certain types of accreditation;
* limit access in function of available capacity;
* facilitate services, transportation, etc.;
* differentiate privileges between different types of accreditation.

Examples of types of credentials can be found in **Appendix 2K**.

2.11 Sponsorship Committee

2.11.1 General

In days of increasing costs to organize events, yacht clubs and sailing associations are seeking outside **sponsorship** to assist in defraying these costs. Event sponsorship may take many forms from the donation of operating equipment, products and supplies, to the contribution of money.

2.11.2 Amount of sponsorship

There are two **basic elements** that a Regatta Organizing Committee must evaluate when seeking sponsorship:

1. First, what are the **needs** and philosophies of the **organizing Club(s)**?
2. And secondly, what are the **needs** of the **sponsor** and what are the capabilities of the Regatta Organizing Committee as far as fulfilling these needs is concerned?

Once the decision has been made to seek commercial sponsorship for an event, the Regatta Organizing Committee must make a list of its **requirements** and the **associated costs**. Items on such a list may include:

* Race Management equipment (racing marks, flags, communications and electronics equipment);
* fuel for Race Committee boats;
* official publications (Notice of Race, Sailing Instructions, Race results, Official Programme);
* trophies and prizes;
* competitors souvenirs (t-shirts, caps, badges, medallions, etc.);
* Media Centre operations;
* hotels and facilities;
* food and beverages;

* computers;
* support vehicles;
* video and photographic support;
* air transportation;
* Race Committee clothing.

2.11.3 Attracting sponsors

To attract sponsors the help of a professional **marketing agency** may be required. Most of them will take a percentage of the sponsorship money that they acquire. To provide such a company with the necessary tools, prepare a file with the following **information**:

* description of the proposed regatta;
* history of the event (if not a one-off), including documentation on previous winners, press releases, etc.;
* type of organization, human and material resources involved, back-up from club, local authorities, etc.;
* detailed budget.

This same file could partially serve to request and obtain major contributions from public bodies.

2.11.4 What can you offer the sponsor?

The most valuable things you have to offer are the sponsor's name in the **title of the event**, and his right to **direct advertising** in both printed and electronic media as the "official sponsor" of the event.

Furthermore, *RRS appendix 1* permits Organizing Authorities to place certain **event-sponsored advertising** on competitors' **boats**.

However, there are many other areas where **event sponsor advertising** may be **displayed** at all times:

a) There are no restrictions to event sponsor advertising on **Race Committee** boats, **press** boats or special **spectator** boats. This advertising may include banners, flags, decals, special painting and special clothing for Race Committee personnel.
b) In any other areas on the water, including logos/names on **racing marks**.
c) On the **shore** in the form of flags and banners at supporting clubs and other facilities. Inflatable balloons, advertising on marquees, score boards and official vehicles are options, too.
d) **Public announcements** with audio equipment and video displays.
e) All **published materials** including posters, Notice of Race, Official Programme, Sailing Instructions, Race Results, Press Kits, Press Releases, Club newspapers or magazines and official bulletins.
f) Competitor **souvenirs** such as caps, T-shirts and prizes for the regatta.
g) At **social events**.

The Regatta Organizing Committee must decide to what extent and where they will permit the sponsor to have direct exposure for his name or product.

2.11.5 Contracts

Once a sponsor is obtained, a formal **contract** must be entered, outlining the specific requirements and responsibilities for both the organizer and the sponsor. The contract must spell out each item in sufficient detail to **avoid conflicts** or misinterpretations, particularly in the area of sponsorship fulfillment. To prepare this contract, and to be properly informed about tax rules and rules for marketing, it will be necessary to have trusted **legal advice**.

3 FACILITIES

Abstract

This chapter specifies the necessary facilities at the regatta site, beginning with signal masts and boards to pass information to the competitors, mentioning boat moorings and boat storage, and ending with medical facilities, transportation and security.

Contents

3.1 Race Office requirements

3.1.1 Signal mast

The signal mast must be **close** to the Race Office and be **visible** from the competitors' boat park and from the moorings of the Committee boats. It should be high enough to be seen over the sails of the boats (8-10 m high) and have as many halyards as the number of racing areas.

Flags are hard to see when there is no wind. Recent experiments include a system of rigid flags consisting of a metallic or plastic fabric that will permit the wind to pass through. The only drawback is that it must be oriented correctly since it has only two planes of vision. An alternative would be a cylinder variation. When being hoisted, signals at the signal mast should be accompanied by a **sound signal** and/or a short announcement through the **public address system**.

3.1.2 Official Notice Board (see also **Appendix 2A**)

Provide an official Notice Board with the following **sections**:

* Race Committee;
* Protest Committee;
* Measurement Committee;
* Results.

The board(s) must be **adequately lit** and located **close** to the Race Office. Its handling should be limited exclusively to Race Office personnel and the Secretary to the Protest Committee.

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.

3.1.3 Public address system

The system should be able to **reach all shore areas**, such as boat park, moorings, measuring area, ramps, locker rooms, etc. Besides as a means to page people, it can also be used to give competitors information about the compass course and distance to the course area before going afloat.

Use of the public address system should be **kept to a minimum** and limited to reasonable hours. Too many unimportant messages may make listeners less attentive. Early-morning or late-night messages may cause complaints from people living close to the site.

3.2 Boat facilities

3.2.1 Mechanical lift out resources

A **crane** should be available to launch and take out keelboats, coach boats, etc. The hoist should have a minimum **capacity** of 1.5 tons, if it is to be used for current Olympic keelboat classes and the like. The hoist arm needs to clear the boat sufficiently to lift it off its cradle and to be long enough to place it in the water.

If Class Rules and Sailing Instructions allow competing boats to be taken out of the water after each racing day, it may be necessary to expand the facilities by the use of **portable hoists**.

The **Beach Master** (see this Section, **Chapter 2.3.8**) or his delegate will be responsible for the equipment. He should do an extensive pre-regatta check. Each hoist should have its own operator. Arrange the operators' working hours to the schedules of the fleets, both for launching and hauling out.

3.2.2 Moorings of keelboats, coach and committee boats

Competitors' boats moorings
When allowed, a large part of the fleet will avail themselves of the use of **hoists** for the daily launching, but Class Rules or Sailing Instructions now often require that the boats remain in the water during the competition, in which case **moorings** must be provided for the entire fleet.

Moorings should have the following **characteristics**:

- the length of the line from the wall to the buoy should be the length of the boat + 2 m;
- the length from the wall or dock to the anchoring weight should be related to the length of the boat;
- the anchor buoy should be of plastic or any other soft material to avoid any damage to hull or foils;
- the anchor line from the buoy to the dead weight must be long enough to clear the boat's draught.

Moorings for coach boats
Most teams have coaches who bring their own boats, usually inflatable hard-bottom dinghies. **Crane** or **slipway** facilities should be available to launch them, as well as moorings in a designated area.

Moorings for Race Committee boats
It is recommended that all the organization's vessels be **together** or arranged by their specific **purposes**, Race Committee, Patrol, etc. This makes loading materials and victuals on board much easier. It also gives the Race Officer(s) a good overview before going afloat, and makes it easier for them to **communicate** with their RC team as a whole.

3.2.3 Dinghy park

If there is a large number of competitors, it is advisable to assign properly **labelled spaces** per class and/or nation, and to provide **ID-tags** to attach to the trolleys/trailers. This will also help the Beach Master's team to fetch and return the right equipment, when competitors sail in or out.

If possible, the boat park should provide the following **services**:

* loudspeakers;
* running water, i.e. a hose of adequate length for every 10 boats;
* proper lighting;
* electrical outlets;
* day and night guards;
* holding rings to tie the boats down (especially multihulls);
* lockers for mast, sails, etc.;
* garbage containers.

3.2.4 Boards, Optimists and boats without trolleys

Board storage

Vertical storage: Supply a system of supports against a wall spaced every 25 cm at a height of 2 m, and a rubber floor to protect the boards. Alternatively, supply vertical lockers of 70 cm deep by 40 cm wide, capable of accommodating a board, mast, sail, centreboard and clothes. Such a system must have air circulation and drainage.

Horizontal storage: Lateral installation with frontal access, made of metal or wood supports at least 25 cm apart, to fit the tip of the board and the fins. The supports must be covered with a soft material (rubber, plastic, PVC). This system may be complemented by frontal lockers of 70 cm deep by 40 cm wide, capable of accommodating board, mast, sail, centreboard and clothes. They must have air circulation and drainage.

Storage of Optimists

Like boards, Optimists may be stored in horizontal or vertical positions. A horizontal structure requires 50 cm separation. Taking into consideration that the skippers will be children, there should not be more than 3 levels of storage.

With a vertical structure, the boat should rest on its transom against a wall support, with clips every 40 cm to attach to the deck hardware.

Storage system for boats without trolleys

Boats usually have individual trolleys. For those which do not, it is necessary to provide:

* old tyres. They are easy to obtain, but must be covered to avoid marking the hulls;
* old mooring lines;
* 2x4's or similar pieces of wood.

3.2.5 Safety anchoring in dinghy park

On locations where the winds may build up at night, it may be necessary to provide a system that will **tie** the dinghies **to the ground**, as a safety measure. This can be done with a permanent system of **rings** attached to the pavement. It is acceptable if there is enough space for the boats, but has the inconvenience of not being flexible for different types of dinghies. The rings should not protrude above the pavement surface, in order to avoid accidents.

Another more flexible system that is able to accommodate different types of boats may be the utilization of **old tyres** filled **with concrete** and rings. Clubs may choose to have a permanent

system for their own fleet and a supply of concrete-filled tyres with rings attached to accommodate different visiting classes during regattas.

3.2.6 Team containers

Some organizers provide small containers for each of the teams near their boats, which can be used to **store** tools, sails, gear, etc. This method reduces the traffic within the compound, and is appreciated by the competitors.

3.2.7 Launching ramps

There are no pre-established dimensions for ramps, but as a general rule it should be possible to **launch** the entire dinghy fleet **in approximately 20 minutes**. The following **factors** should be taken into account:

* total number of boats to be launched;
* type of boats (single- or double-handed, multihulls, boards, etc.);
* beam of the boats;
* degree of difficulty of the ramp system;
* tidal effect, surf, etc.

3.3 Car & trailer parking

3.3.1 Parking for cars and vans

In order to provide adequate parking facilities, an estimate should be made of the **number** of cars and camper vans expected.

To collect this information at an early stage, a space could be provided on the **entry form** sent to National Authorities and/or Class Associations asking for the number of cars, vans and/or trailers that will be brought to the regatta venue.

If appropriate, reserve a few **parking spaces** close to the Race Office for **key personnel.**

Ideally, the parking area should be supervised to **restrict access** only to authorized vehicles. It should be **well lit** and equipped with loudspeakers, and a **24-hour guard** should be present. The local **police** should also be informed of the event and the amount of traffic expected.

3.3.2 Trailer parking

A **specific area** should be assigned for competitors' and coaches' trailers. The Beach Master's team should have **cars with hitches** to drive all trailers to the designated areas. Via the Notice Board or a separate **Information Sheet** issued with the Sailing Instructions, competitors and coaches should be informed as to where they can pick up their trailers at the end of the regatta.

Remember that many boat trailers have built-on locker space, so the closer they are to the boats, the more convenient for the competitors.

3.4 Further shore facilities

3.4.1 Fuel supply

If the club is located in, or close to, a marina, it will probably have a **service station** with gasoline, diesel fuel and oils (2-cycle marine). Otherwise a **fuel compound** should be provided within the club and sufficient quantities stored.

It is important to **estimate** the fuel needs of all watercraft involved in the regatta. Add the normal usage data from previous years to a provision for additional usage by spectator craft. A good estimate of consumption will preclude running out of fuel during the regatta.

Each day after the races, all RC boats should be **refuelled** for the next racing day. This frees the fuel docks for their routine service the following morning, and avoids RC delays.

3.4.2 Club facilities

During the competition an **unusual number** of people will be using the club facilities, i.e., bar, restaurant, dressing rooms, rest rooms, etc. Take this into account when planning the number of personnel, volunteers, etc.

3.4.3 Telephones and faxes

The number of existing **telephone lines** in a Club is usually insufficient for big-regatta needs. The minimum requirements are:

* Regatta Organizing Committee (1 line);
* Reception and Information - Race Office (2 lines, including 1 for faxing);
* Press room (4-5 lines, including 2 for faxing).

One solution is to have the telephone company install a **mobile office** providing this service to competitors and press. Manpower to service it should also be arranged.

If new **telephone numbers** are to be used, they should be known in advance and preferably be published in the Notice of Race.

3.4.4 Food

Each RC boat should make one crew member responsible for **collecting food** and **drinks** for the crew each morning before going afloat.

When arranging catering consider the expected **weather conditions** and the length of time the RC members will be at sea.

3.5 Off-site facilities

3.5.1 Repair facilities

These should consist of the following **services**:

* sailmaker;

* machine shop;
* carpenter;
* fibreglass repair shop.

Some clubs that are located close to marinas or harbours usually have this type of **service available**. If this is not the case, these services must be coordinated to be available, or a **list** must be prepared of services available elsewhere, with addresses, telephone numbers and a **map** of how to get there.

3.5.2 Medical facilities

Besides the medical help at sea (see this Section, **Chapter 2.7**), provision must be made to have access to **full medical assistance** such as the services of a local hospital, the Red Cross, a private doctor, ambulance, etc.

3.6 Transportation and Security

3.6.1 Transportation

Arrangements must be made for swift transportation of goods and people to and from the site before, during and after the regatta. An import-export agent should be contacted to coordinate and expedite temporary imports of containers, etc. **Transportation needs** may be needed in the following **areas**:

* goods (office, on-the-water, food + drink, etc.);
* competitors' boats, RC boats, trailers;
* competitors and personnel (RC, Measurement Team, Protest Committee).

3.6.2 Security

Depending on the location, it may be important to arrange **security measures** that will guarantee the security of competitors, personnel and materials.

4 VESSELS & EQUIPMENT

Abstract
For the management of a race the Race Committee has to arrange for several vessels and boats that are suitable for the race area and adequately equipped for the tasks they are meant to perform. To have a fleet of both comfortable vessels able to carry the necessary signals and administration equipment and fast inflatables to lay and move marks is desirable. Finally, the type of marks used and the quality of associated devices like lines and weights can have a major influence on competitor's satisfaction, stress on the course-setting personnel and the success of each racing day.

Contents

4.1 Starting vessel

The Starting vessel should be of a size sufficient to accommodate the Race Committee personnel in reasonable **comfort**. Depending on the type of course, it may also act as **Finishing vessel**. It should be **appropriate** for the conditions likely to prevail in the course area; it should be maneuverable, visible and **clearly identified** in accordance with the Sailing Instructions. It should be equipped in accordance with the list in **Appendix 2H**.

4.2 Course-setting vessel

Particularly for the much shorter new-style Olympic courses, the Course-setting vessel should be a **fast power** boat equipped with **instruments** for determining either speed or distance run, or both, as well as a reliable compass and GPS. Depending on the type of course, once the course has been laid out, the Course-setting vessel may be used as a **Lineboat** on the pin end of the starting and finishing lines. In most types of course, however, the Race Officer will want to wait as long as possible before finalizing the course, which means that the Course-setting vessel will not be back in the starting area in time to act as Lineboat. A separate Lineboat will usually have to perform this task, especially if more than one race per day is scheduled.

Between starting and finishing, the Course-setting vessel may be used as a **patrol boat** although its main task is to stand by for **alterations to the course** in the event of a wind

change. This vessel, like the Mark boats, is a **source of information** to the Race Officer. Its list of required equipment can be found in **Appendix 2H**.

4.3 Mark boats

Mark boats are desirable for major regattas in **open waters**, especially when the **legs** are **longer than 1 NM** or when visibility is hampered by large waves or poor conditions. They can contribute to the fairness of the racing. Mark boats are ideally keelboats or trailer yachts or any kind of displacement vessel with a **tall mast** or rig to which an **easily identified shape** can be hoisted. The best is an equilateral triangular "sail" with sides about 1.5 m, of orange day glow material, set in the rigging at right angles to the wind.

Mark boats should be adequate for the conditions that are likely to apply in the area. While on station, Mark boats are usually in a good position to record **mark roundings**, which may be of use to the Race Committee or the Protest Commit-tee afterwards. Mark boats can also be used for **mark laying** or **shifting marks** following a course change, in which case they may need additional equipment. **Appendix 2H** contains a list from which the desired equipment can be selected.

4.4 Patrol boats

Patrol boats should be of **adequate capability** to assist boats in distress under adverse conditions. For dinghies the **ratio** should ideally be **one** patrol craft **for every ten competitors**. In sheltered estuary waters the need may not be so great. On the other hand, a junior fleet may well require a higher proportion. Each craft should be manned by **at least two competent persons** and equipped as in **Appendix 2H**. See also this Section, **Chapter 2.7**.

4.5 Signal boat

For **large fleets** consideration should be given to using a Signal boat to be stationed on the course side and approximately in the middle of the starting line, and around 100 to 200 metres to windward. When a Signal boat is used this way, all the **starting signal equipment** listed for the Starting vessel in **Appendix 2H** will be on the Signal boat.

4.6 Jury boat(s)

Depending upon the formality of the regatta, the traditions of the Class and the requirements of the Organizing Authority, one or more Jury boats may be required. In nearly all match and team racing **on-the-water umpires** are used to signal infringements and instant penalties. Major international championships usually have an *International Jury* which may take some responsibility for **observing infringements** and even lodging protests, especially relating to contact between boats, illegal propulsion, touching of marks, etc.

In this case a number of Jury boats may be required, dependent on the number of Jury members who are supposed to be ‘on the water’ during racing. Experiments are currently also underway with **direct judging** in small fleets.

The specifications for Jury boats will vary according to the sea conditions and the nature of the racing fleet. For dinghy racing, a **fast cabin cruiser** may act as mother vessel to two or more **inflatables**. Jury vessels should always be identified by a **Jury flag**, which may be the letter "J" or the word "Jury" on a contrasting ground, or Code flag "J". See also this Section, **Chapter 2.4**.

4.7 Marks

Marks should be **highly visible** against sea or land (bright yellow or rescue orange) and **easily** towed and **handled** by the Course-setting vessel. If marks not in use are towed during a race, the Course-setting crew must ensure that competitors do **not get confused** by moved marks.

The most suitable types are **inflatable neoprene cylinders** or **spheres** of a size suitable for the length of course and height of waves. Cylinders of 1.2-1.5 m height and spheres of about 1 m diameter are suitable for most small-boat classes.

Marks used for a **change of course** should be of a different shape or colour or have some distinguishing mark such as a coloured (or black) band or sleeve which can be slipped over the mark.

Cylindrical marks need a heavy **counter-weight** to keep them upright and all marks need a counter-weight fixed to the anchor line about 2-3 metres below the surface to keep the line down and away from close rounding boats. A 12 to 25 kg steel weight is best. **Steel** is more effective than concrete, because in water it weighs some 87% of its weight in air, whereas concrete in water only weighs 55% of its weight in air.

The type of **anchor** best suited to the locality should be determined. Generally some form of wide fluked grapnel anchor is most satisfactory. Danforth anchors are easily fouled and when well bedded are sometimes difficult to retrieve.

The **line** should be long enough to prevent the mark dragging in heavy weather but not so long that the mark shifts with variations in wind and tide. Preferably some **chain** should be used at the anchor end to prevent chafing and improve holding.

In very **deep water**, marks can be secured with disposable **ground tackle** consisting of reject or damaged concrete blocks and non-synthetic (bio-degradable) twine which **can** simply **be cut**.

Marks for the Kenwood Cup off Hawaii, for example, are laid in some 600 m of water. Two or three concrete blocks are lashed together with cheap line which also provides a leader. Twine is attached to this line. At the surface end the twine is attached to another leader which also has a length of shockcord in parallel with it to prevent shock loadings.

Because the marks sometimes have to be retrieved in very adverse conditions, a small buoy is attached to the counter-weight so that it just reaches the surface. Small buoy, counter-weight and mark are then retrieved in that order and the biodegradable anchor line twine is cut below the leader.

5 RACE DOCUMENTS

Abstract
This chapter deals with the Notice of Race and the Sailing Instructions, two important race documents. The Notice of Race can be seen as a formal offer to a potential competitor. It has to be drafted with great accuracy as it specifies the conditions for entry, the classes and the rules to govern the event. The Sailing Instructions are most important to the success of a regatta, as they provide additional information to the competitors and may change some *Racing Rules* that shall apply to the event.

Contents

5.1 The Notice of Race

The Notice of Race is an extremely important document. At first sight it would seem just a simple brochure with some useful information about the regatta, tourist information, etc. In legal terms, however, it can be seen as a **formal offer** to a potential competitor with the **conditions** under which he or she will be allowed to participate in the regatta. If the competitor enters the regatta on the basis of the Notice of Race, he must be assured that the event will be held at the time and place and for the class(es) specified. He must also be assured that participating in this regatta will not bring him in conflict with the **ISAF eligibility** rules (see *RRS Appendix 2*), and the Notice of Race must tell him whether or not he will be permitted to display **advertising** on his boat or sails (see Appendix 1).

Drafting the Notice of Race is a job that must be done with **great accuracy**. Outside help from a legally trained expert or the use of existing Notices from other major regattas as examples may prove useful. Make sure to be very **clear and specific** and avoid anything that could be ambiguous. Once it has been published, it will be very **difficult to change** anything in the Notice of Race.

Since it is possible that not everyone receives the revised text in time, in general it is strongly recommended **not to change anything** in the Notice of Race that might have changed anyone's decision **whether or not to compete**, had he been aware of the change. Once the event starts and the competitors arrive, it will be possible to make certain changes by amending the Sailing Instructions. Here again, utmost care should be taken that nothing is altered that will change the nature of the regatta and the basic rules for it.

The Notice of Race should include the designation of the **advertising category** of the event. Appendix 1 20.3.3 to 20.6.2 establishes the **rules** applicable as to which advertising category is used. RRS86.1 lists RRS Appendix 1 in the category of unalterable rules.

The *ISAF Racing Rules of Sailing* (*RRS J1*) includes a **list of the items** that must be included

in a Notice of Race. Some National Authorities have standard models of a Notice of Race which can be used. These can be very useful for local and national regattas because they often include reference to the **National Authority prescriptions** that will apply. Remember that if prescriptions of the National Authority are to apply to an international regatta, a copy of each prescription must be included in the Sailing Instructions in English.

A model containing the most essential items of a Notice of Race (at least the ones prescribed by the *Racing Rules*) is included in **Appendix 5A**.

5.2 The Sailing Instructions

The Sailing Instructions are **extremely important** and must be prepared with great care. The effective operation of the regatta, the responsibility and authority of the officials and the all-important link to the *Racing Rules* and, if appropriate, the *Appeal Authority*, are governed by these instructions. It is equally important that the Race Officer and all the officials associated with the actual conduct of the regatta be **thoroughly conversant** with them.

Appendix 5B (as taken from *RRS K*) contains a set of **standard Sailing Instructions** with alternatives to meet various situations. There are also notes to guide Race Committees in the selection of appropriate alternatives. An expanded version of the guide is available on the ISAF website (www.sailing.org) and contains provisions applicable to the largest and most complicated multi-class events, as well as variations on several of the sailing instructions recommended in this appendix. Compiling the Sailing Instructions for an event is the task of the Race Committee (see *RRS 88.2*). The compiling should not be looked upon as an opportunity for displaying originality or creative ingenuity.

The **standard Instructions** should be **used** unless there is good reason for deviating from them. Local harbour by-laws may have to be considered, or special launching and retrieving requirements. Class Rules may prescribe some aspects of the regatta.

Sailing Instructions must be written so as **not to conflict with** any **Class Rules** and, when applicable, Class Championship Rules. The use of standard Sailing Instructions is a **valuable service** to competitors worldwide, who should not be confused by each Race Committee confronting them with its own version.

The introduction to *RRS K* – **Sailing Instructions Guide**, lists the principles on which all Sailing Instructions should be based. One is that they should be concerned **only with racing**. It follows that any other instructions should be described in a separate section.

If the Sailing Instructions proper are labeled Part A, and the non-racing inscriptions Part B, the Race Committee can still protest competitors who infringe Part B rules (or report them to the Jury), but it can prevent competitors protesting each other under this section by adding: "Instructions of this Part B shall not be grounds for a protest by a boat."

Instructions that go into this section may concern:

* safety;
* insurance;
* sail numbers (what to do if the number in the sail is not that of the certificate);
* sail stamping;
* keelboat docking, dinghy parking, trailer parking;
* prohibited areas (e.g. other Race Courses) etc.

In addition, there may be matters which, although they *do* concern racing and therefore belong in the Sailing Instructions, **competitors** should **not** be able to **protest each other** for.

Examples are: advertising on hulls required by the Organizing Authority, hauling out restrictions, support and coach boat prescriptions, etc. This can be taken care of in a **subsection** of the Sailing Instruction that deals with Protests: "Infringements of Sailing Instruction .., .., .. and .. shall not be grounds for a protest from one boat against another, but may result in action by the Protest Committee (in alteration of *RRS 60*)."

In fairness to competitors the Sailing Instructions should be **available in time** for them to be studied before racing begins. It is common practice to have them available as part of the **registration packet**. That is fine, provided there is a time interval of some hours, preferably twenty-four or more, before the first race. For major and international events it may also assist competitors to publish the sailing instructions on the host web site well before the event. The Skippers Briefing is not the appropriate time to give out the Sailing Instructions (see also Section B, **Chapter 7.3**).

6 COMPETITION FORMATS AND SELECTION OF THE RACE AREA(S)

Abstract
Different competition formats are briefly outlined. Fleet racing, handicap racing and match racing are frequently used. Then, some aspects of how to select the race area(s) are mentioned, e.g. class championship rules, possible length of legs, distance to shore, maritime routes and fishing areas, usual wind conditions, water depth and overlap with other race areas.

Contents

6.1 Competition formats

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

Team Racing

Two teams, each consisting of **several boats**, compete in "fleet" races or match races against each other. Special rules (see *RRS D*) apply. Results for each team are summed by the results of each team member boat.

Fleet racing

Most frequent and "classic" way of competition in dinghy and multihull racing: several boats (usually of one class) compete in one or more races, starting for each race at the **same time** and sailing on the **same course**. Scoring follows the principle: the better a boat's finishing places, the better her overall results.

Handicap Racing

Different types of boats (class, design, etc.), especially in offshore racing, compete in one or more races on the same course. They may or may not start at the same time for each race. The scoring considers a boat's construction/sail **formula** (e.g. IMS – International Measurement System) and the **time** needed to sail the course from her starting signal to her finishing.

Match Racing

Matches are **short races** performed by just **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 with a number of particular match racing rules (see *RRS C*) applying.

Sailing in Groups

Facing many entries in some major events (e.g. 470 class, Laser class), regatta organizers may choose "sailing in groups" as an alternative to large fleets crowding at the starting line and at each mark. The fleet is **split into** (e.g. six) **groups**, each group sailing with another group in fleet races.

The competitors will be **seeded into** each **group** by their recent performance / ranking list position and / or by casting lots. Geographic aspects may also be considered. The competitors will be **regrouped** after a pre-determined number of races completed (usually after each racing day). For the **final race**, there will be a Gold, a Silver and a Bronze group competing, based on the overall results obtained in the previous races, with or without discards.

A regatta with split fleets involves a lot of **additional administration** efforts. Boats have to be identified by, for example, coloured ribbons, indicating their current group membership. Distribution, exchange and return of ribbons have to be managed, as well as calculating the results at the end of each racing day and determining new groups for the next racing day.

6.2 Selection of the race area(s)

The Race Committee needs to **establish** the location of the race area(s) **well in advance**. If several areas will be in use at the same time, it is vital that they do **not overlap**, not even if one Race Committee starts shifting its marks before the other one(s) do(es).

An excellent way to **visualize** the location of one or more regatta areas over the chart is to cut out cardboard or draw on transparent plastic the **circles for each area**, then to move them over the chart so as to easily see all the possible features of the general area until the most adequate location is found.

To ensure that the Race Committees always know exactly where they are, and are thus able to stay well clear of each other's area, provide them with a list of **coordinates of eight points** on their race circle (N, NE, E, SE, S, SW, W, NW), and the coordinates of the centre of the circle.

If certain **Class Championship Rules** apply, they should be checked for requirements regarding:

- length of the upwind leg;
- length of the course;
- minimum distance of any mark to the shore;
- any other requirements.

Other **points of consideration** are:

- the shore profile (effects from mountains, valleys, rivers, urban areas, etc. A high shore profile will require more distance from shore than a flat land profile. The farther the distance the higher waves);
- shallow obstacles, sand bars, etc.;
- water depth and type of bottom. (The nautical chart will dictate the length of anchor lines

and the type of anchors);

* empirical data and knowledge of local wind patterns and currents;
* tides;
* maritime routes;
* fishing areas;
* any governmental rules for the area.

Also consult with local fishermen, Clubs and navigators for additional information. The Maritime Authority should also be contacted and Notices to Mariners consulted.

Section B

Race Operations

7 THE START OF THE REGATTA

Abstract
A regatta usually begins with the reception of the competitors. Regardless where they are coming from – from overseas or the neighboring club –, they should get a warm welcome by the hosting authority or club. In this chapter the initial steps and formalities of a regatta such as Registration and handing out Instructions are given. Measurement and inspection procedures have to be coordinated and finally, the Skippers' briefing gives the Race Committee a very good opportunity to build up personal contact with the competitors.

Contents

7.1 Registration

Registration (see also Section A, **Chapter 2.2**) is a simple procedure by which a competitor makes a **formal contact** with the Regatta Organizing Committee, a kind of "report in".

First and foremost it is the moment at which such formal matters as **registration** of the competitor, payment of the **entry fee**, issuing of Sailing and Measurement **Instructions**, etc., are dealt with.

At the same time, it is also an opportunity for distribution of a **competitor's packet**, if one has been prepared. Such a packet may include sponsors' gifts, a map of the locality, public transport timetables and stations, a programme, and anything else that is relevant. It is also an opportunity to **introduce** visiting competitors to local people and generally to make them **feel welcome**.

7.2 Measurement and Inspection

This has been referred to in Section A, **Chapter 2.6**, in connection with the Measurement Committee. The requirements will vary from a simple acceptance of a previously obtained **measurement certificate** or registration on the one hand, to a complex **series of checks** and measurements on the other.

The purpose is to ensure **fairness in class racing** and to make certain that no competitor has an unfair advantage through deliberately or inadvertently infringing the Class Rules.

If there are special requirements for measurement, they should be included in the Notice of Race. The Sailing Instructions shall then, when appropriate, specify the measurement or

inspection procedure (see *RRS J1.2; J2.2*). Usually measurement matters have been **completed before the first day** of racing, but under certain circumstances a boat may give its measurement certificate, if required, before the end of the event to the Race Committee (see *RRS 78*).

7.3 Skippers, Coaches/Team Leaders Meeting

Regattas vary greatly in the duration and content of the meeting for competitors. For many smaller regattas briefings are not even considered necessary. However, meeting can be very helpful in **building up contact** between the Race Officer/the Race Committee and the competitors, especially when there is no opening ceremony.

Although regatta waters should be as "neutral" as possible, there is often some **advantage** favoring **local competitors**. The advantage extends to knowledge of the shore facilities and even to familiarity with the officials. A meeting can be of benefit in countering some of these advantages. To this end its **prime purpose** could be described as **countering differences** in familiarity with the local scene thereby contributing to the fairness of the competition.

The briefing usually **precedes** the practice race or the **first race** and may be undertaken either by the **Chairman of the Race Committee** or by the **Race Officer** for "his" classes, if there are several areas being run at the same time. **Subjects** which may be covered at the **Skippers Briefing** include:

- a friendly word of **welcome** (if there has not been a formal opening ceremony);
- an introduction to **key officials**;
- an identification of main **shore locations** (Race Office, Protest Room, etc.);
- location of the **Official Notice Board**;
- identification of **Committee boats, Marks**, etc.;
- hazards and prohibited **areas**;
- the **course** area;
- **food** arrangements;
- **social** arrangements;
- **prize** giving;
- specific **rules** of the Host Club;
- etc.

Because the meeting has **no authority** in terms of the rules and the Sailing Instructions, statements made are not protestable and there is a responsibility upon the official conducting it to exercise **great caution** not to mislead.

Sailing Instructions should be unambiguous and not require further explanation; nevertheless there is usually a valid point or question from someone. To act correctly, you should ask for such **questions** to be submitted **in writing**, but this would often look too formal. And it would not contribute to facilitate the communication between Race Officials and competitors.

Therefore you may accept oral questions as well as written ones. But to give equal opportunity to every competitor, especially to those who are not familiar with the language to

be used for the answer, it is important that the Race or Protest Committee should **reply** to them **in writing** on the Official Notice Board stating both the question and their answer.

7.4 Race Officials Meeting.

In multi course events the PRO should have a pre regatta meeting with his RO's to discuss the logistics of the regatta, each persons responsibilities and to confirm the line of communications between them.

RO's should also have a team meeting with their race officials to confirm each persons responsibilities and to answer any of their questions. This meeting should cover all aspects of the event so that each person knows who is responsible for all required duties and to ensure that they are all fully coordinated so that the regatta runs as smoothly as possible.

8 SETTING THE COURSE

Abstract
This chapter details general aspects of course geometry, for example having a combination of beating, reaching and running. Factors that may influence the choice of the course to be sailed are mentioned. Detailed procedures for setting the course, beginning with locating the Starting Vessel in a suitable Race Area and ending with setting the finishing line are given. Instructions to Course-setting boats are also included. The philosophy and the shapes of Triangle courses, the Windward/Leeward, the Trapezoid Inner and Trapezoid Outer are discussed – also considering the new focus on time rather than on distance. Finally, effects of wind changes and current are explained and possible measures to compensate are specified.

Contents

8.1 Course geometry

Courses usually provide a combination of **beating, reaching and running** - each leg testing particular tactical and boat handling skills. Exceptions are long-distance **point-to-point races**, where often changes in weather provide the variations desired. **Class rules**, too, may specify special requirements. For example, 6 metre yachts race only on windward/leeward legs.

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

Whatever the course configuration, **convention** and **common sense** should play a part in the course selection. Courses should be **consistent** and **not complicated**. Even for a course around harbour marks, all mark roundings, where the rounding could be either way, should be consistently port or starboard. Port-hand roundings are often preferred at a windward mark, because they simplify observance of the port-starboard rule. Therefore, for **major events**, where there are no geographical constraints, a **port hand course** is always used; except in **match racing**, where the organizers look for maximum tactical complexity, and therefore often prescribe **starboard roundings**. Looping around marks should 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. These criteria are met by the new- and old-style **Olympic courses** used for major events.

The **selection of** the type of **course** to be used for a regatta, 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. The **Class rules**, for certain (principal) events may describe the configuration desired although the **Sailing Instructions** can always override such a description, and indeed, on occasion, it may be necessary that they do so.

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**. It may be better to sail extra laps of a smaller size in order to avoid foul wind or foul ground which introduce advantages from local knowledge.

8.2 Location of the Race Area

It is assumed here that the race course will be purposely set for the races that are to take place, using separate marks and starting and finishing lines to be positioned **depending on the wind direction**. When racing is to take place around fixed harbour buoys or landmarks, the positions of starting and finishing lines may vary depending on the wind direction.

Some clubs have a **designated race area** that may even be indicated on the chart. With a set of

coordinates, each Club's Race Officer will therefore always lay his course in the same area. For multi-course regattas, each Race Officer will also be allocated a Race Area beforehand, again defined by a set of coordinates.

If the Race Officer has to pick **his own spot**, the following applies: To set a course he will need to be competent in some **basic geometry** or enlist the services of someone who is. He will need a **chart** of the racing area showing relevant features which can be used for fixing positions, a cardboard shape or an **outline** on clear plastic film (e.g. overhead transparencies) of the desired shape made to the chart scale, **instruments** for transferring compass bearings to or from the chart, and a method of marking off distances.

In **enclosed waters**, the course shape will reveal how much flexibility the Race Officer has in placing the course with regard to the wind direction. It may also indicate to him that a starboard hand course is necessary, although a port hand course is always preferred to avoid congestion at the windward mark.

In **open water**, the procedure is simpler but there are fewer features and transits available to check the locations of the marks and therefore the length of the legs. The Race Officer is then dependent on carefully calculated time-distance runs in order to establish a windward leg of the length required.

These days, of course, **Course-setting boats** may have all sorts of **navigation electronics** on board. It makes sense, however, to know how to do it the old-fashioned way, in case the electronics should fail.

The following is a **proven sequence** for **course-setting** (continued throughout this chapter):

8.3 Position of the Starting vessel and the leeward Mark

If the wind is steady, **move to** a **leeward location** within the designated racing area.

Locate the **position on** the **chart** by means of compass bearings, back-bearings, and transits, from identifiable features.

Record the average **wind bearing** and transfer it to the Starting vessel position on the chart. Remember that a wind vane must always be used in clear air, not where air flow is disturbed by a part of the Starting vessel. The best place is usually the bow.

Place the **course shape** described above **on the chart** to define the course and **possible changes**, to determine suitability with regard to foul ground, headlands, shipping channels, etc.

When satisfied, **anchor** the Starting vessel and **recheck position**. Note that the Starting vessel is always positioned at what will become the starboard end of the line.

When anchoring consideration should be given to letting out a little extra anchor line as this will give you the opportunity of making minor last minute adjustments to the starting line (before the preparatory signal) by either pulling in or letting out further anchor line.

Advise the **other** Committee vessels – and the other Race Officers, if any – immediately of your **anchoring position** and your **wind direction**. This information will help the other on-

the-water-managers to establish their own courses and will avoid conflicts between neighboring race areas.

Continue to **check wind direction**.

8.4 The starting line

8.4.1 Length and direction

The next task is to **lay** the **starting line**, which needs to be of the required length. There are a number of **rules of thumb** for determining this. Commonly used guides are **1.1-1.5 times the sum of the lengths** of the boats in the fleet. Some Race Officers regard this as too generous. The wind and sea conditions as well as the maneuverability of the racing boats should be considered.

The starting line needs to be **nearly square to the wind**. For this the Race Officer needs a wind vane with a 90 degrees sighting device or use of a hand-bearing compass. He takes up a position at the **staff on board** which **defines one end of the line**, and with the wind vane held in clear air, sights at 90 degrees to the vane. If this is not possible, use a hand-bearing compass. The **line personnel** on the Starting vessel should make sure that they can **sight the line** any time: they need to stand 1 metre behind the mast or pole which marks the starboard end of the line.

A simple method of checking the angle of the starting line is to wait until the starting vessel is laying either directly into the wind or in a direction parallel to the course to the first mark and then sight the pin mark along a bulkhead or some other right angled part of the starting vessel, this will give you a very accurate reference.

8.4.2 Lineboat action

The **Lineboat** proceeds in the right direction (wind direction minus 90). Once the correct length has been reached (with a log, or time-on-distance calculation), the Lineboat **drags** the **floating mark** that is to form the **pin end** of the line in the water, but holds on to the weighted tackle.

This is done ideally in such a manner that the **Race Officer can see** the exact **position** of the weight. (This mark is often referred to as the "**ODM**", the Outer Distance Mark.) **At a signal** from the Race Officer, given when the floating mark is in position, the anchoring device is **dropped** overboard. The Race Officer may have to make some **allowance** for **tidal flow**, and in light conditions, the dropped weight tends to bring the mark forward.

Consideration can also be given using to using a flag and staff on the lineboat as the pin end mark. This has the advantage of the line boat always being in position to sight along the starting line and can also be used for making quick adjustments to the line as described in 8.3 above.

8.4.3 Line bias

It is customary to lay a starting line **with** approximately **5 of bias** favouring the **port end**. The right-angled wind vane for line setting may be so constructed as to include a sight with this bias. The purpose of the bias is to **encourage** the fleet to make **use of the whole line**

instead of just the starboard end. Too much bias may lead to congestion at the port end as boats compete with each other to take advantage of it. The Race Officer should **observe how** the **fleet reacts** to the bias on his first starting line and adjust as required for subsequent starts. This requires the **bias on** the **first start** to be **accurately set** and known.

8.4.4 Inner limit mark

If an **Inner Limit Mark** ("ILM") is required it may now be laid. This mark protects the Starting vessel from competitors and gives barging boats the opportunity to harmlessly pass on the wrong side of the mark and restart rather than ram the Starting vessel or another boat. An Inner Limit Mark should be set **as near as possible to the line** but never more than a boat length to leeward of it. If it is too far to leeward, boats may be able to pass between the mark and the line towards the Starting vessel while still satisfying *RRS 29.1 and 30.1*.

To protect the Starting vessel an alternative is to project from the stern of the Starting vessel, a mark on a pole which then forms part of the Starting vessel. It also keeps boats away from a stern anchor warp if one is used.

8.4.5 Correcting the line

Remember that under *RRS 27.2*, the Race Committee may **shift a starting mark** at any time **prior to the Preparatory Signal** or, put the other way, all starting marks must be laid not later than the Preparatory Signal. Thus, with subsequent starts the starting line **cannot be adjusted** without delaying the starts.

See also **paragraph 8.8.2** below, which deals with the **effects of current** on the starting line. For information how to deal with **starting problems** related to the starting line, please see also **Chapter 9.3** and **Section D** on *Racing Rules* and Race Management **Policies**.

8.5 The windward leg

If there is going to be a **leeward Mark** in front of the starting line (Mark 3 in the "old" Olympic course; Mark 4 in case of the new "Inner Loop" course), the **Course-setter** sails halfway down the line, then heads up 90 ending up head-to-wind and dropping the Mark approximately **0.1 to 0.2 NM** (or less) **to windward** of the middle of the starting line.

The first **windward leg** is thus **extended**. Apart from giving a longer first beat, this is also a **better situation** when **multiple starts** are required. Once the first class has started, if the second or third class has a general recall or two, the first boats away could be arriving at the leeward Mark while starting procedures are still taking place.

When satisfied that the **wind is steady** enough within its fluctuations to warrant course setting, dispatch the Course-setting boat with specific **instructions** that will give the desired **course length** and **direction**, e.g., for a windward leg of 1 NM and a wind of magnetic bearing 55 , the instruction would be: "From the leeward Mark, proceed 55 degrees at 20 knots for 3 minutes".

From the chart, provide **information** which will enable the Course-setting boat **to check its position**. The Race Officer may be able to calculate the compass bearings of two identifiable features or there may be a harbour feature close enough for a reliable assessment of distance. Keen **competitors** will be quick to **complain if** a **significant error** is made and then the whole

Race Management is called into question. When the course boat is in position to lay the weather mark he should radio the Race Officer on the starting vessel who should then the course boats position and confirm that it is the correct position to lay the mark.

The above is a possible procedure if everything goes well. Sometimes wind or tide or both combine to frustrate the Race Officials. In light winds the **Starting vessel may** not stay on station but **drift** with the tide. **Stern anchors** are to be avoided if possible but if one must be used it should be laid with a weighted warp and marked with a buoy If a GPS is being used to lay the course either of the following procedures should be adopted.:

A. When the starting vessel is on station it can plot it's position on a chart using the GPS or by any other means. The course chosen for the race is then plotted on the chart and the coordinates for each of the marks are calculated and relayed to the course boat that then puts the coordinates into the GPS as way points. The course boat then simply proceeds to the waypoints and lays the appropriate marks. For course changes the procedure is repeated. This assumes that the starting vessel has a chart table or similar, large scale charts, the time and ability to plot the course and extract the information required and the means of relaying the detailed information (lat and long down to three decimal places) and that the course boat has a GPS that will easily allow the input of manual waypoints. This method does not allow for fine-tuning of the course prior to the preparation signal, as time may not allow new coordinates to be plotted and relayed to the course boat. It also makes "eyeballing" the weather mark ands getting a good wing mark difficult.

B. The course boat acting upon instructions from the start boat to lay the weather mark at say "1nm on a bearing of 195 degrees" proceeds to the center of the start line and enters that position as a waypoint of the GPS, way point 10 for example and records this waypoint number as the center of the start line. The boat then proceeds up wind for 0.1-0.2 n.m. and positions the leeward mark (as per paragraph 1 in section 8.5). After allowing the mark to settle the course boat approaches along side and enters that position as the next waypoint (eg 11), and records this number as the leeward mark. The coxswain then calculates the back bearing of 195 degrees (015 degrees) and sets the GPS into "goto" mode and nominates the waypoint for the leeward mark (number 11 in this example). The course boat then heads off on a bearing of 195 degrees with the coxswain checking the back bearing via GPS. When the bearing and distance to the waypoint is 015 degrees and 1 n.m. the coxswain checks with the start boat to ensure the course boat is in the right position and to allow for any changes in wind direction. If given directions to move left or right the back bearing on the GPS will change and this can be used to calculate the new wind direction. After the weather mark is laid and allowed to settle the course boat approaches alongside and enters that position as the next waypoint (eg 12) and records this number as the weather mark. The coxswain calculates the bearing to the wing mark and sets the GPS to "goto" waypoint 12 in this example. The coxswain then proceeds in the direction of the wing mark using the back bearing on the weather mark to correct any drift. When the back bearing and distance to the weather mark (12) is correct the coxswain can select "goto" waypoint 11 to double-check this position against the leeward mark. Once this mark has been laid it's position should be entered as another waypoint (13). If a trapezoid course is being used then this can obviously be extended. If a change of course is required the start boat then relays the course using the stored leeward mark as the reference point. This method also means that the course boat can check any of the marks for drift by comparing their current position against the GPS waypoints.

8.6 Laying the other marks of the course

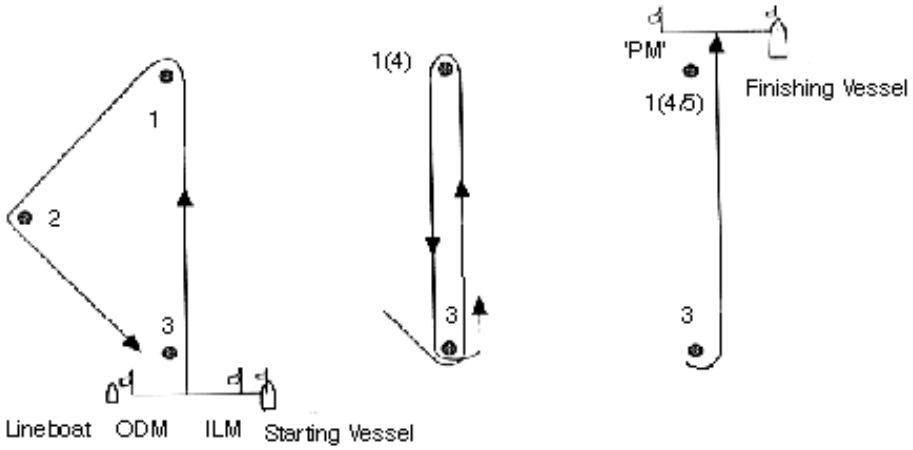
Up to this point the **procedure is the same**, no matter what **type** of course is used, as long as it starts **with a beat**.

Some years ago, there was really only one acceptable course to lay, especially in open waters. This was the so-called **Olympic Course**, which consists of a **triangle**, **a loop** (the sausage) and **a final beat**. Sometimes it would have an extra triangle added and be called the super-Olympic Course. Many course experiments have been taking place, and the result has been the introduction of a number of **new Olympic courses** in respect of the 1996 Olympic games. However, experiments will go on and produce **new course options**. For the courses most frequently used at the time the current *Racing Rules of Sailing 1997-2000* was issued, see also *RRS N, Addendum A* (Illustrating the Course).

In the **following sections** the particulars of **all types of courses** will be described. Which course is to be selected is usually a decision for the Race Committee and the Class(es) involved. See also paragraph **8.8.5** of this Chapter.

8.6.1 The triangle-sausage course

The **"old-style" course**, is as follows:



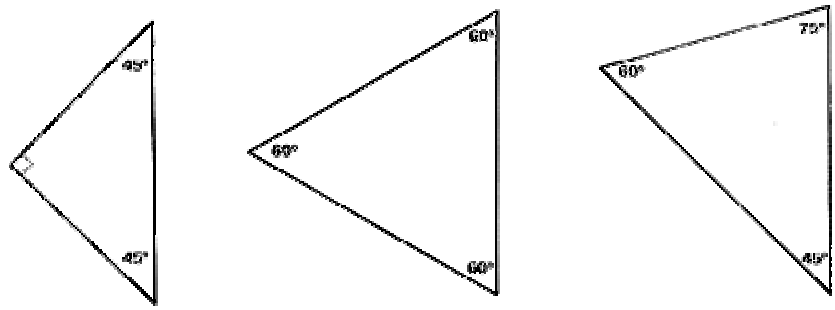
The "old" triangle.

The **first leg** of the triangle is the **windward leg**, bounded by marks conventionally numbered "3" (the **leeward mark**) and "1" (the **windward mark**). The "apex" or **"gybe" mark** is conventionally numbered "2".

The **commonest triangle** is the 90-degree-angled isosceles triangle (**45 -90 -45**) with the 90 degree angle at the gybe mark. **Classes** which **close-reach** well under **spinnaker** may prefer an equilateral triangle (**60 -60 -60**).

Some **multihull** classes may use a scalene triangle (unequal sides) with a shorter, **close first reach** (usually **75**), and a longer, broader second reach. A multihull triangle can be something between **75°-60°-45°** (earlier type) and **75°-85°-20°** (recent type). Especially the length of the first reach may be different: Some classes like very short first reaches, others like longer ones

or even no reaches at all (so that the course becomes just windward/leeward - see **8.6.4**).



Left: the standard 45°-90°-45° triangle. Middle: the 60°-60°-60° equilateral triangle. Right: the 75°-60°-45° scalene triangle.

The Race Officer **instructs** the Course-setting boat to **proceed from Mark 1** on the compass bearing required **for Mark 2**.

To **calculate** this, take the direction from Mark 3 to Mark 1 and subtract 135 for a 45 -90 -45 course (subtract 120 for a 60 -60 -60 course; and 105 for a course with a close first reach with a 75 angle).

The **Course Setter** continues on this course, looking back to Mark 1 every now and then to **verify his bearing** and, if necessary, **correcting for waves** that push him further inside the triangle. He proceeds until Mark 3 lies on the correct bearing from his new position.

On the standard **right-angled** isosceles **triangle**, the Course Setter has reached his new position when he sights **Mark 3** at a 90 degrees angle to his left, i.e. when he subtracts 90 from his current bearing. **From** the **Starting vessel** the bearing should be **checked** (the direction from Mark 3 to Mark 1 minus 45). Keep in mind that the **Race Officer** on the Starting vessel is probably **not lined up** with the two marks, so the **position of Mark 2** will always **look** slightly **off to him**.

The **Table of Bearings** in **Appendix 8A** may be useful. With the triangle complete, the course is now basically laid.

The **wind direction** is continually **checked** by the Starting vessel and all Mark boats. The Race Officer may have to swing the course one way or the other if the **wind backs or veers** with any degree of constancy. If the wind reading is different from that at the windward mark, the Race Officer must decide whether to **compromise or accept** one or other of the readings. The other possibility is to wait for overall constancy but then a successful race may be put in jeopardy by excessive caution.

The **finishing line** is not set until the race is well on its way. It is customary for the **Starting vessel** to remain **as a Mark boat**, that is to say, a boat that is assisting in making the proximity of a mark apparent to competitors, until the leading boats are approaching the completion of the triangle. The Starting vessel then makes its way to windward and proceeds to **set the finishing line**.

Especially if there are several race scheduled per day, with each race having a limited duration of 35-90 minutes, it is advisable for the Starting Vessel to **remain on station** at the leeward

mark and **delegate another craft** the task of managing **the finish** (a separate "Finishing vessel").

The **final beat** may be **extended** by positioning the finishing mark some distance to windward of Mark 1. The reasons for setting up a separate finishing line are similar to those mentioned for setting the starting line to leeward of Mark 3: it creates **more windward work** and leaves **Mark 1 clear** of finishing boats. This is especially valuable if the Race Officer wants to **change** the direction of **the final leg** because of a wind shift. Without a separate finishing line he would not be able to do this in the case of a drawn out fleet with tail-enders, or a fleet that started later, still rounding Mark 1. **Mark 1** would **not be included** as a mark of the course for boats **sailing the final beat** to the finish.

Whether the finishing line is contiguous with Mark 1 or some distance to windward of Mark 1, the **procedure for line setting** is the same. The Finishing vessel **anchors** so that the line between the staff at one end and the mark (either Mark 1 or a separate Finishing Mark) at the other is **at 90 degrees** to a line **to the leeward mark** (i.e. not necessarily also at rights angles to the original or current wind direction!!!).

While the **starting line** is set approximately **at 90 degrees to the wind**, the **finishing line** is set **at 90 degrees to the last leg** of the course. On many occasions this will also be at 90 degrees to the wind direction but is not necessarily so. The **Finishing vessel** should normally be at the **starboard end** of the finishing line for a port hand course and the **port end** of the finishing line for a starboard hand course. This ensures that boats take the finishing mark on the same side as all previous marks of the course.

Boats finishing should be **kept away from** the **anchor line** of the Finishing vessel, particularly when the water is shallow and the anchor rope is at a flat angle. One way of doing this is to tie a floating indicator to the anchor so that competitors know where it is. The **finishing line** as a whole should be **long enough** for boats to pass safely between the anchor and the other end of the line. The other - more effective - way is to lay the **port end finishing mark** slightly **closer to the last mark** of the course - providing a slight bias to the pin end. This will attract boats to the pin end and keep them away from the Finishing vessel.

8.6.2 Philosophy of new Olympic-type courses

For the **1996 Olympic Regatta** entirely new courses were used. A representation of the different course shapes can be found below.

Philosophy
It is important to understand the philosophy behind the new courses, because improper use may cause considerable problems. The philosophy for the Olympic Regatta is **based on the following**:

* races are to be of **limited** and more or less pre-defined **duration** (Olympic target times):

  ⇒ **35 minutes** for Mistral;
  ⇒ **60 minutes** for Laser, Europe, 470 and Tornado;
  ⇒ **75 minutes** for Finn (Trapezoid), Star and Soling;
  ⇒ **90 minutes** for Finn (Triangle).

* the course configuration must increase the chances for trailing boats to **catch up with the**

leaders, making the racing more exciting and spectacular;

* a finish on a reach - with spinnakers up if appropriate and boats passing through the finish at high speed – was meant to offer a better overview of the relative positions of the boats than a beat normally does. This idea was partly realized by using the **Trapezoid Inner** and **Outer** course.

Invariably, for **Olympic** racing the **focus** is both on the actual **racing and** on offering **a show** for spectators and the media. The new courses were meant to offer better possibilities to position spectators close to the racing, and - if the wind conditions allow - to position the course close to the shore so that the spectators can watch the finish as they would do in rowing or motor car racing, for example.

Course length vs. fleet size

It is important to bear in mind that a **course** for a race that is to last about 40 minutes in average winds (12-18 kts) **will be small**: the **windward leg** will be somewhere between **0.7 and 1.0 nautical miles** long, depending on the strength of the wind and the typical speed of the boats racing. In lighter air the course will be even smaller. This means that the **number of boats** that can effectively sail on one course **at the same time**, has definite limits. About **60 boats**, split into two fleets (different classes or two groups of the same class competing in a round-robin system) will be about the maximum on any one course.

In the Olympic Regatta where **fleet sizes** are **limited** by the fact that there is only one boat or board per nation in each so-called "event" (discipline), and not all nations are represented in every discipline, the use of a small course will normally cause **no problem**. When, however, there are a **large number** of competitors, e.g. in small dinghy (e.g. Optimist, Laser) World Championships, the small courses **will not do** unless the organizers find ways of **limiting the sizes** of the fleets that will be sailing at the same time. (This can be done by setting up a competition format whereby boats compete against each other in **small groups** on a rotating basis).

To **lay** these **courses** the procedure described in **8.5** can be used, especially if the beat is to be longer than 1 NM. If it is (much) shorter, the Race Officer can usually **direct** the Course Setter **on sight** or even ask the Course Setter to simply proceed upwind until the Race Officer considers the distance to be sufficient. The shorter the leg, the easier it is to rely on eyesight.

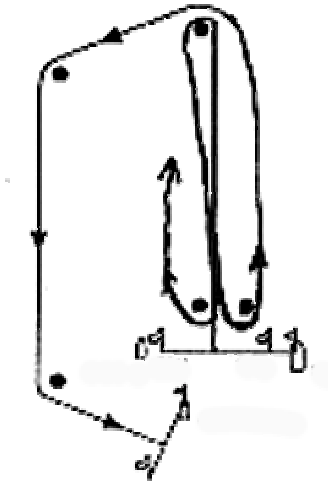
8.6.3 The Olympic trapezoids (Inner and Outer Loop)

The Inner and Outer Loop course have nearly the **same course configuration**, but the order in which the marks must be rounded is different. In addition, with the Inner Loop the **leeward mark** next to the starting line (now usually called Mark 4) is **replaced by a Gate** (4G), i.e. two marks lying at 90 degrees, approximately 6-8 boats lengths apart, to the windward mark. Either of these is to be rounded (port or starboard) when coming downwind from the windward mark and after having first sailed through this gate (passed between both marks from the direction of the windward mark).

On the **Trapezoid Inner Loop** boats sail:

S–1–4G–1–2–3–F

First they sail a windward/leeward. After rounding Mark 1 for the second time they go on a short tight reach to Mark 2, then on a run to Mark 3, and then to the finishing line on another tight reach, leaving all marks to port. If the overall distance of that course seems to be rather short for the prevailing weather conditions, the Trapezoid Inner Loop can be **extended** by adding an extra windward/leeward: **S–1–4G–1–4G–1–2–3–F** (**Trapezoid Inner Extra**).

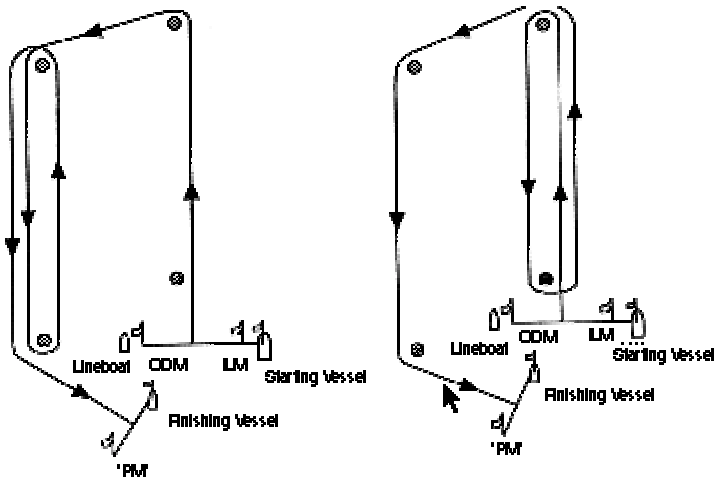


A Gate replacing a single leeward mark.

The **Trapezoid Outer Loop** consists of a beat, then a close reach, then a run, followed by a windward/leeward around Marks 2 and 3, and finally a tight reach to the finishing line, also leaving all marks to port:

S–1–2–3–2–3–F

Also the Outer Loop may be extended by an extra windward/leeward to a **Trapezoid Outer Extra: S–1–2–3–2–3–2–3–F.** As with the Inner Loop, the leeward mark 3 may be replaced by a **Gate**, mark 3 then becoming mark **3G**.



The Olympic basic trapezoid courses. Left: the Outer Loop. Right: the Inner Loop.

Frequently, with more than one Class or various groups of the same Class on the course, the **first fleet(s)** will sail the **Outer Loop** and the **later starters** the **Inner Loop**. It is fair to say that the risk of congestion at the leeward mark is far greater with the Inner Loop, since there is no early reach to spread the fleet out a little.

Another option (not illustrated here) for the Trapezoid Outer Loop, at the Olympics 1996 offered to the Finn class, is having an **upwind finish**, with the finishing line being set windward to mark 2.

Usually the **key factor** in laying the Trapezoid courses is **time**, **not distance**. More wind means longer legs, while in less wind the course must be "shrunk". With an e.g. 60-minute target, the **marks** are usually sufficiently close to lay the marks **on eyesight**. With the **Inner Loop**, again the Course Setter can afford to **delay** laying **Marks 2 and 3** if he is expecting a wind shift.

The **angle** of at least one **of the reaches** is determined by the close-reaching characteristics of the Class(es) on the course. For **single-handers** an angle where competitors have to hike hard and work the sheet all the time is ideal. For boats with **spinnakers**, the angle should be such that the spinnaker can only just be carried. These aspects, too, are clearly dictated **by wind strength**.

Trapezoid courses offer experienced Race Committees the possibility - if local conditions permit - to **lay** the **final legs** quite **late**, i.e., while the race is already underway. By doing this, the second **windward/leeward leg** can be **adjusted** to the wind direction if the Race Committee should find that its original choice of direction for the first windward leg was not the best one possible. There is thus a good **opportunity to correct** for e.g. the **wind shift** at a late stage and lay a perfect second beat, run and reach after the shift has come through. However, this adjustment is difficult or impossible with two fleets on the same course, one sailing the inner loop and the other sailing the outer loop.

The **finishing line** is located at the leeward end of the course, **not far** away **from** the **starting area.** This allows shorter time intervals between the finish of one race and the start of the next one. Remember that one of the reasons for the new courses is not only to allow shorter races,

but also to be able to sail *more* races per racing day.

If the finish is **on a reach** the **position of** the **Finishing vessel** is very important; first, because it is more difficult to read the sail numbers of boats crossing the line on a reach than it would be if they were beating to windward; secondly, because racing tactics on the last reach could involve boats luffing in an attempt to force a competitor to the wrong (that is windward) side of the finish.

Experience so far has proven that the **best place** to position the Finishing Vessel is **at** the **windward** (port) end **of** the **finishing line** (a port hand course is assumed). It may be slightly more difficult to read sail numbers in this position, but it is safer than the leeward (starboard) end of the line, because competitors can see the finishing vessel itself much better than its anchor line and can therefore judge the amount of space available much better.

To solve the problem of **reading** the **sail numbers**, one option is to have a **small boat** at the **starboard end** of the finishing line (a port hand course is assumed), which records all the sail numbers without worrying about the exact finishing order. This boat does not need to anchor and could even position itself slightly to windward of the middle of the finishing line.

8.6.4 The Windward/Leeward course

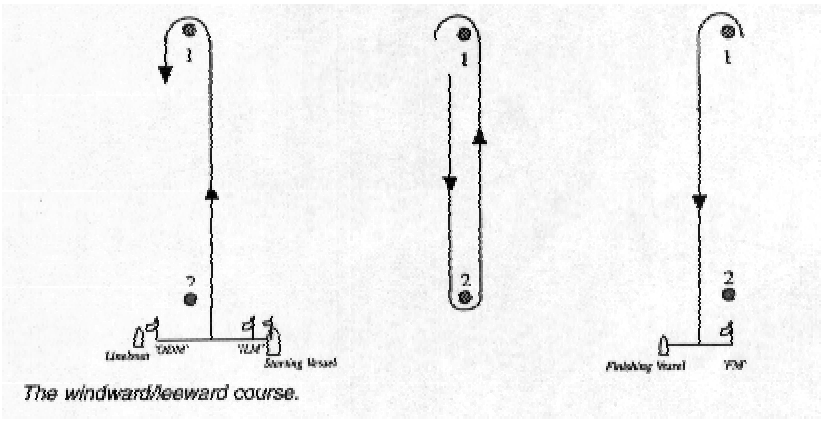
This course only has two marks: **Mark 1** as a windward mark, and **Mark 2** as a leeward mark (otherwise also called Mark 3). Again, as with the Trapezoid Courses, the **leeward mark** may be **replaced by a Gate** (then mark 2 becomes mark **2G**). This gate consists of **two marks at a 90 degree angle** to the windward mark (see **8.6.2. c.**).

Windward and **leeward mark** will usually be laid to **windward** of the **middle of** the **starting line**. It is easily adjusted in the event of wind shifts, because no other marks need to be shifted to maintain the course configuration.

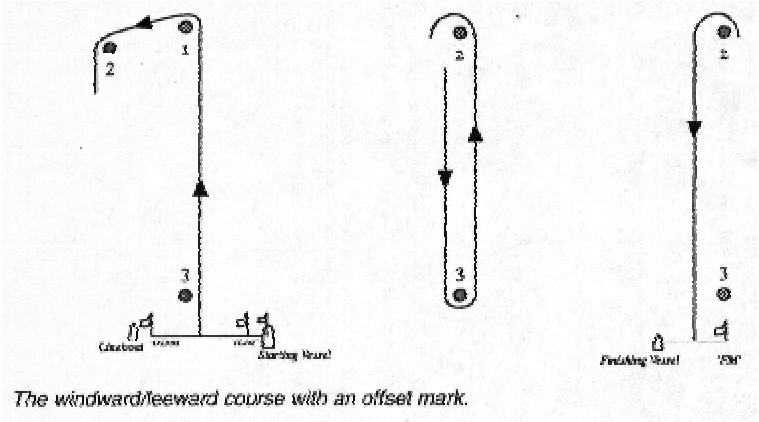
There are several **options** for the Windward/Leeward course: at the Olympics 1996, the leeward mark was replaced by a **Gate** and the finish was downwind. The marks to be rounded were:

S–1–4G–1–F

In addition, there was an option to sail an extra windward-leeward leg (**Windward/Leeward Extra**): **S–1–4G–1–4G–1–F**. As an alternative, there may be an upwind finish in a position to windward of mark 1 (see also *RRS N, Addendum A*).



The Windward/Leeward course, downwind finish.

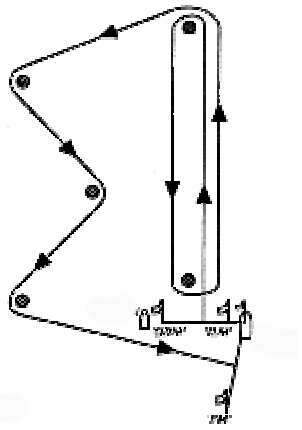


The Windward/Leeward course, downwind finish, with an offset mark.

Some organizers/classes prefer to use an **offset mark** at the windward mark to ensure that the leaders, **on the downwind leg** after rounding Mark 1, do not have to cut right through the fleet still coming up. An offset mark may **also** be used **with triangle** or **trapezoid** courses.

The Windward/Leeward is the course that is **often used for match racing** (with all marks to be left to starboard). The **length of the legs** is then determined **by** the **wind speed** and the **type of boats** racing. A match race ideally takes approximately 25 minutes to complete. If the wind drops or picks up, the Race Officer will usually bring the windward mark in or take it further out to ensure that the racing time for each match stays more or less the same.

8.6.5 The M course



The Board M Course for sailboards.

A course sometimes used for **sailboards**, the **Board M Course,** is illustrated above.

8.6.6 Type of course to choose

The **"new" course configurations** (Trapezoid, Windward/Leeward) and the concept of running a greater number of shorter races (marks lying at shorter distances) have been **in use for** some **years** now and the **response** from the sailors tends to be **increasingly positive**. Small fleets occur typically at club level racing and the new, smaller courses when laid close to the harbour or club house, could raise more interest for yacht racing and possibly attract new sailors.

Some classes, however, **prefer** the **"old" format** with the triangular course and the **longer races**. It is really up to the organizers and the class(es) involved deciding what to do. One of the **advantages** of having different courses is that it allows a great deal of **flexibility**.

Organizers can now more easily **give** classes **the product** that **they want**. Even a **mixture of courses** during one event, the way big boats have had for many years, is possible. At any rate, organizers should not miss the opportunity to consult class representatives well before the event on what course the class prefers. Do not forget at this point that Race Management is a **service to competitors.**

8.7 Adjusting a Course for Wind Changes

This section discusses the **importance of** a **course** being **correctly oriented** to the wind and how courses can be adjusted if the **wind direction** or the **wind strength** changes. It applies mainly to longer courses for which eyesight alone is not sufficient, and therefore makes reference to the "old" Olympic triangle course. However, the principles hold true for shorter courses just as much.

8.7.1 Race Committee action

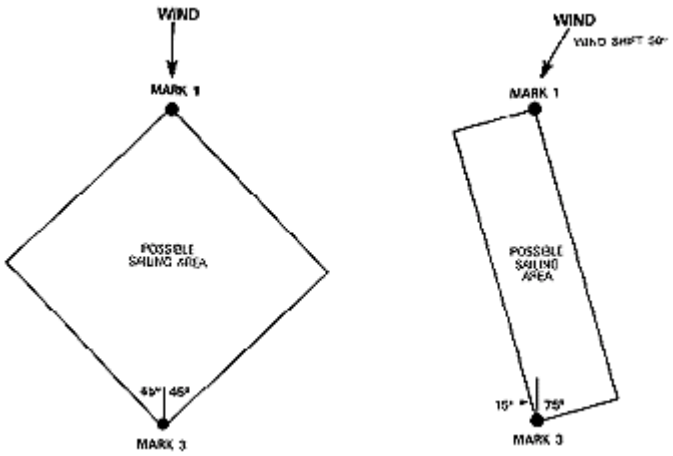
At any time **before** the **warning signal**, by *RRS 27.1*, the Race Committee has to **signal** the **course** to be sailed. If necessary due to early changes in the wind direction or wind strength, *RRS 27.1* allows the Race Committee to **replace** one **course signal** by another and/or signal that a designated **short course** is to be sailed.

If it has already given the warning signal, the Race Committee may then change a given course signal (still being **before** the **starting signal)** by **postponing** the race (*RRS 27.3*) and resetting the course.

After the start the Race Committee is limited by the Racing Rules and the Sailing Instructions. After the starting signal, *RRS 32 (e)* allows a Race Committee to **abandon** (or **shorten**) a race *for any reason directly affecting the safety or fairness of the competition*. This could include a **major wind shift** on the **first leg**. A race should not be abandoned due to a change in wind conditions after the leading boat has rounded the first mark. Abandonment should only be considered as an action of last resort in extreme circumstances where there is no reasonable opportunity to finish the race. Every effort should be made to finish the race by using all available means such as shortening or altering the course, shortening or extending the length of a leg of the course or any combination thereof

8.7.2 Windward leg

On a windward leg boats should **sail equal times** on **port** and **starboard tacks**. If the leg is not true to the wind, sailing distance is reduced and the sailing area is reduced, too. In the left diagram below the sailing area on a beat for boats making good a track 45 to the true wind is shown. It is a square formed by boats sailing on opposite tacks from the leeward mark to the lay lines to the top mark. The right-hand diagram is the sailing area **if the wind veers** 30 . The **sailing area** is **reduced** by 50% and port tack sailing by 63%. If the wind veers 45 the sailing area becomes a line and the "beat" a procession to the top mark with the **sailing distance reduced** by 30%.



Left: a windward leg true to the wind. Right: effects of a 30° wind shift – reduced sailing area.

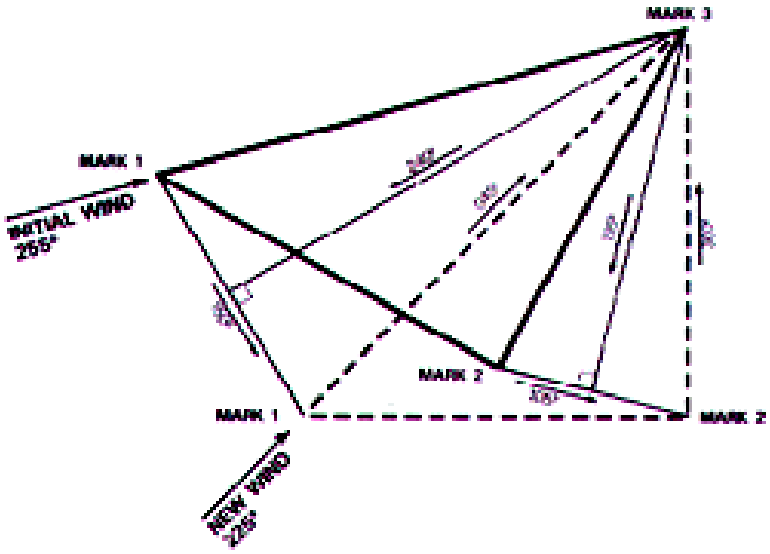
8.7.3 Leeward leg

On the leeward leg, **correct alignment** to the wind is probably **more critical**. Assume the class is one that does not tack downwind and the optimum course lies within 10 of the true wind. If the course is true, midway down a 1.5 NM run, the boats could be spread over a width of 490 m. Thus a boat has **room for initiative** with respect to following shifts and tactical theories. If the leeward leg is at an angle of 10 to the wind, theoretically, for the boats assumed above, all boats should remain on the same tack and sail on the same line to the leeward mark.

8.7.4 Adjustment procedure

Having established the importance of a course true to the wind, how is the course adjusted? Generally, an **adjustment** would **not** be **made before** the **end of** the **first triangle**. When an adjustment is made at this time, the whole course would be **rotated** about the **leeward mark** ('Mark 3' in a triangle course).

If the **windward leg** remains the **same length**, the old Mark 1 and the new Mark 1' form an isosceles triangle with the apex at Mark 3. To locate the **position of Mark 1'** the Mark boat proceeds from Mark 1 along the base of that isosceles triangle to the new position. The base is at 90 degrees to the line bisecting the other two sides. For example, if the bearing of the first leg was 255 , and the wind backs 30 , the new bearing of the leg is 225 and the average of the two bearings is 240 . The line at 90 degrees to the average is 150 . Therefore to lay Mark 1' the **Mark boat steers 150** from Mark 1 until Mark 3 is on a back bearing of 225 minus 180 , that is 045 . This is shown in the diagram below.



Adjusting a triangle course (bold outline) by laying Mark 1' to 150° from Mark 1 and moving Mark 2 to a new position, thus rotating the (bold) triangle about Mark 3 (rotated triangle = dotted outline).

If a further triangle is to be sailed, **Mark 2** will have **to be moved** in a similar manner. It the triangle was 45 -90 -45 , the old bearing of Mark 2 from Mark 3 was 210 (port hand course) and the new bearing is 180 . Therefore, the Mark boat steers 105 from Mark 2 until the bearing of Mark 3 is 360 . This is also illustrated in the diagram above.

It is a good practice to announce "**standby for a course change**", even if it is not proceeded with. The Race Officer must then take the decision, **allowing** his **team enough time** to execute course change. However, keep in mind, that any change in a race **may cause errors** and misunderstandings due to human failures or material shortcomings. Competitors might become irritated, confused or even misled when changes are not executed and signaled in due order. Do not try to be a perfectionist and **consider** properly if a **minor change** of the wind direction already requires a course change and, when positive, if your team will be able to manage the necessary action. Usually, a change of course is not necessary with wind shifts of **5-15°.** Start thinking about a **change** of course when the wind shift turns out to be of **20° or more**.

The actual **procedure** to do a course change could then be as follows: when the competitors are **on** the **reaching legs** of the triangle, a **new bearing** is **determined** for the windward mark and the **Mark Boat** or the **Course Setter** is **instructed** to proceed left or right according to whether the wind has backed or veered, until it is on the new bearing (see above).

Appendix 8A gives the appropriate **tables**, which combine the number of degrees of the shift with the length of the beat, thus giving the **angle** and **distance** that the Course Setter must navigate from the old Mark 1 to the new windward mark position. An **alternative** but more time-consuming procedure is for the Course Setter to **proceed from Mark 3** (leeward mark) on the bearing of the new windward mark. If there should be a second triangle, then **Mark 2** must also **be reset**. The new bearings for Mark 2 must be calculated and the attendant Mark Boat or the Course Setter be instructed accordingly.

The change does not have to be **"completed",** the mark may not be in position **before** the **leading boat begins** that **leg**, but **in time to give** it due **notice** of the change and **display** the **bearing** of that leg (see *RRS 33*). Similarly a new final beat can be set while the leading boats are on the square run.

The **Mark Boat** stationed **at Mark 3** (the mark beginning the leg being changed) will receive orders from the Race Officer as to when to display **code flag C** and the approximate compass bearing to the new mark, and to make **sound signals** periodically. *RRS 33*, *RRS Race Signals* and *RRS K 11* (**Appendix 5B** in this Manual) give the guidelines to deal with course changes.

Note that it is sometimes necessary to display one or more **class flags under Code flag C**, e.g. if the change **applies only** to some classes in the same race area or to a class whose leaders have overtaken the tail enders of a class which started earlier and which is still sailing the old (unchanged) course.

The **Mark Boat** (often the Lineboat, if it has finished its starting line duties) must be positioned **close enough to** the **mark** to ensure that the flag(s) and the compass bearings can be seen and the sound signals heard. It must, at the same time, leave a big enough gap to allow the fleet to get through.

The **Sailing Instructions** will have spelled out precisely how competitors are to take Mark 3 **when** the **change** in wind direction is **greater than 90** . The instruction may provide for waiving *RRS 28.1*. For example: "When the course is changed, boats shall pass between the RC boat signaling the change and the nearby Mark, leaving the RC boat to starboard. In this case, *RRS 28.1* is amended so that the string representing a boat's wake shall touch either the Mark or the required side of the RC boat signaling the change of course."

8.7.5 New Olympic-type courses; shortening and lengthening of legs

When "new" Olympic-type courses are used, it will prove to be **more difficult to adjust** a course for wind changes while the race is underway. Usually the **time available** for moving a mark will be **short** (only a few minutes) and this will require a skilled Race Committee and fast course-setting vessels to make it work properly.

At the same time, it is **less damaging** than on the "old" course **if** one or two **legs** should be **less than perfect** by the time the fleet approaches them, because the races are short. With more races to be started there is always a chance to **change** the **course before** the **next race**. And with the option to **lay** the **final legs very late**, there is often a good chance that you can correct for a windshift at a late stage and lay a perfect last run or beat to the finishing line.

In addition, as the focus with the shorter courses is rather on time than on distance, the Race Committee shall try its best to **adapt** the **lengths of** the **legs** to **meet** the **scheduled target time** for a race as near as possible. Competitors will not be happy to sail two races of 90-100 minutes duration each if they expect one race to last only 60 minutes. Likewise, races of a significantly shorter duration than expected will be unsatisfactory.

The Race Committee may react to **changes in** the **wind strength** by **shortening** or **lengthening legs** (could be combined with a change of course direction). A Mark boats then has to **signal the change** *by displaying **flag C and a '–' if the leg will be shortened or a '+' if the leg will be lengthened*** (see *RRS 33*). This gives the Race Committee the flexibility to adjust the length of a leg if the wind is moderating instead of e.g. having to shorten the course by one round. However, as every change increases the chance of an error, the Race Officer has to **consider properly** if a (especially minor) change of the length of a leg will make a material difference in the race.

It is difficult to give a **rule of thumb** when a course change of this kind should be signaled. If **visibility** is good and the mark to be moved is **already in** the **water** as the boats round the prior mark, a change of **15-20% or more** of the original length of the leg should be signaled. If visibility is poor, however, or the mark is not yet in place as the boats round the prior mark, **even minor** changes of the length should be signaled. Again, bear in mind that at all times a **course change** of the course direction must be **signaled before** the **leading boat begins** the leg being changed (see *RRS 33*), and that on short courses there will be very **little time** to put the mark in position.

When moving marks, a general guideline for any type of course should be that a **mark** that is **no longer required** for racing **be removed** as soon as the last boat has rounded it. Competitors can easily get confused if marks that are no longer used are left in their old positions, whilst other marks are moved to new positions. However, be sure that competitors **do not get confused by towed marks**: These marks may be wrongly identified as the actual marks in position.

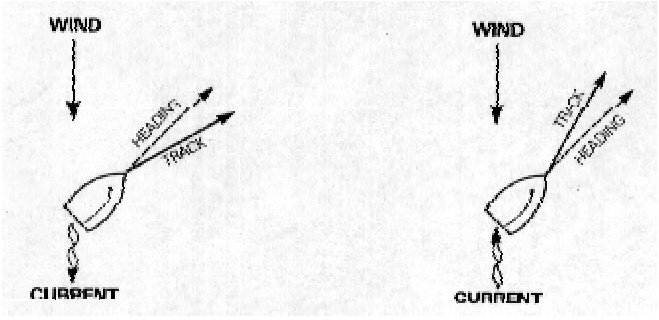
8.8 Adjusting a course for currents

8.8.1 General effects of a current

We have considered the effects of wind changes on a course. Now we need to **consider currents**, usually **tidal** and therefore **varying**. Currents are particularly important, when

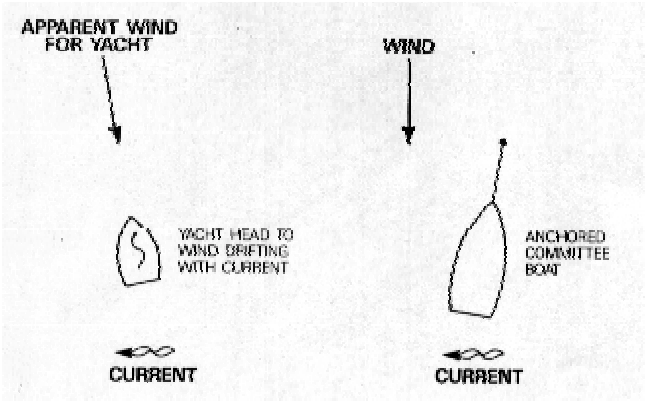
relatively strong and associated with light winds. With anchored marks in a current it is **not possible** to set a course which is **correct for all legs**. However, this section considers how the elements of a course are affected by currents and how they may be adjusted.

When adjusting a course in a current a Race Officer must use considerable judgment. If **significant adjustments** are required it may be wise to **delay** or racing. With any current the **apparent wind** experienced by a boat is **different** from that experienced on an anchored Committee boat. If the **current** is in the **same direction** as the wind, the apparent wind is less than the true wind and a close-hauled boat's track is further from the wind than its normal track. With the current in the **opposite direction** to the wind the apparent wind is greater and the boat's close-hauled track closer to the wind.



Effects of currents parallel to the wind.

With the **current not parallel** to the wind the **direction of** the **apparent wind** will **change**. With a true wind of 7 knots and a cross-current of 1 knot the apparent wind, for a boat stationary in the water, is from 8 downstream of the apparent wind on an anchored Committee boat.



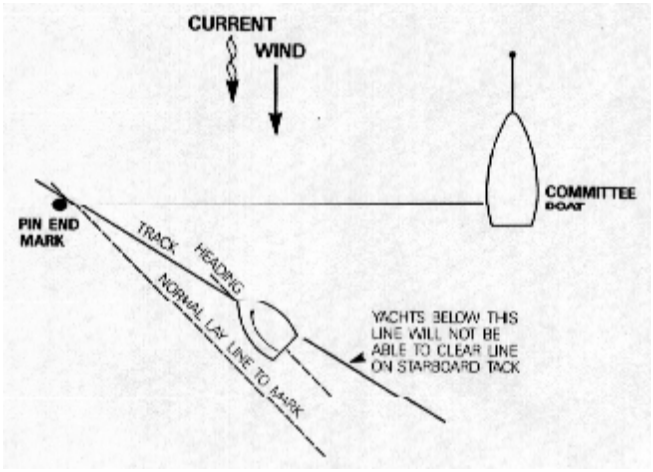
Effects of cross-currents, not parallel to the wind.

With a **cross-current** a beating boat, sailing equal times on each tack, will reach **a point** some distance **downstream** of a point directly to windward of its starting point.

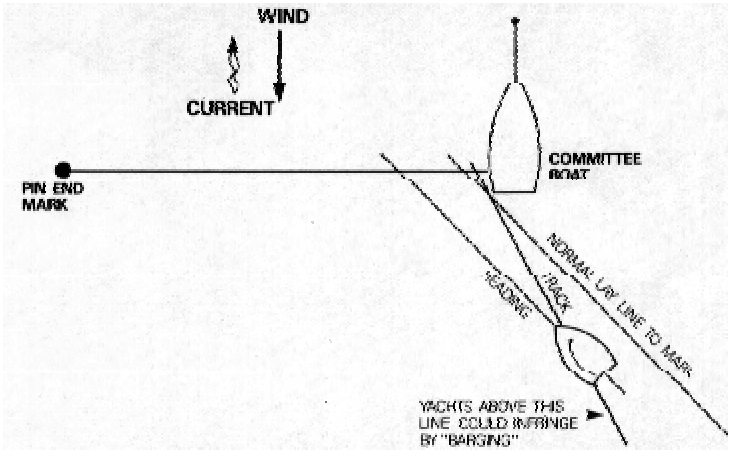
8.8.2 Effect on the starting line

With a **current parallel** to, and in the **same direction as** the **wind**, a boat starting on starboard tack passes closer to the pin end mark than it would with no current. With a relatively strong current, boats starting **on starboard tack** near the pin end may have **difficulty in clearing the**

mark. Some authorities recommend that in these circumstances the **line** should be **biased to starboard** to give starboard tack boats a greater opportunity to clear the line. However, the Race Officer must decide if starboard tackers should be favoured over port tack boats. An alternative method to compensate is to **lengthen** the **starting line**.



Effect of a current of the same direction as the wind, on boats starting.



Effect of a current parallel and against the wind, on boats starting.

If the **current** is **parallel** to and **against** the **wind** the most significant problem on the starting line is current-induced **barging at the starboard end**. This will most likely occur at the starboard end and more port hand bias will alleviate it. The use of a **distance mark** will protect the Starting vessel.

If there is a **cross current** the **starting line** should be approximately **at a 90 degree angle**, with appropriate bias, **to the wind perceived** by a boat stationary in the water. This can be calculated by vectors, or a luffing boat can be observed or an unanchored Committee vessel can be asked to take a wind bearing.

A current will normally be **constant during a start** and therefore it is appropriate to consider adjusting a starting line to allow for it.

8.8.3 Effect on the windward leg

A current **parallel to the wind** changes the velocity but not the direction of the apparent wind. It also alters the track of close-hauled boats but **no course adjustment** is necessary to ensure equal times on each tack to reach the windward mark.

The correct bearing to a mark may be altered drastically by a **cross-current**. A cross-current carries boats downstream while they are beating and therefore the **windward mark** should be **located downstream** to ensure boats sail equal times on each tack and fulfill the ideal of maximum sailing area.

The **correction** required in a cross-current **varies with** the **speed of** the **boats**. The faster the boats the less time they take to reach the top mark and therefore the smaller correction required. In our example in paragraph 8.8.1 above, with a true wind of 7 knots and a cross-current of 1 knot the apparent wind was from 8 downstream of the true wind.

If boat speed in these conditions is 4 knots and boats sail at 45 to the apparent wind, the windward mark should be set 26 down the current of the Starting vessel.

This leads to a **rule of thumb** for a cross-current. Assess the **difference between** the **wind directions** for sailing boats and the Committee boat by observing boats luffing. **Multiply by three** and set the windward mark at that angle **downstream**. For fast boats the correction would be less, to have equal times on each tack while beating to the top mark.

Obviously, from the example above, corrections **may become very large**. The Race Officer must decide what changes in tidal current will occur during the leg and during the race and set a course to allow for these keeping in mind the effects of the current on the off-wind legs.

8.8.4 Effect on downwind legs

In a cross-current, for a true downwind leg, the **bottom mark** should be **downstream** of the direction **of** the **apparent wind**. The distance it should be displaced is again **dependent on** the **speed** of the boats. Thus, if a true windward beat is set (equal times on each tack) it is not possible to have a true run and arrive back at Mark 3. In fact, the **first reach** of the triangle **may become a run** and the second one a close reach. The leg from Mark 1 to Mark 3 would

also be a reach. Unfortunately, the Race Officer must **accept this effect** on the off-wind legs in order **to obtain better upwind legs**.

8.8.5 General

Current and wind are **unlikely** to be **parallel** or **at a 90 degree angle**. The easiest method to determine apparent wind is to **watch** a competitor **luffing** head to wind.

To determine the **correct bearing** of the **windward mark**, have a **boat sail** from the Starting vessel **close-hauled** on one tack for, say, one minute and then tack and sail on the opposite close-hauled course. The boat's bearing when it has sailed for equal times on both tacks is the required bearing of the windward mark to give equal times on each tack.

A wing mark should be set at the usual bearings from the windward and leeward marks, although this will not give the required reaches. To give correct orientation of all legs, the marks would have to drift with the current with the course orientated towards the apparent wind from a drifting boat! **Light winds** and **strong currents**, particularly with slow boats, require **large corrections**.

In Match Racing two windward marks are often used to compensate for tidal current.

For example, in our previous calculation for the position of the windward mark, for a boat with a speed of 3 knots, the mark should be 32 down current, or four times the difference in wind angles.

9 STARTING PROCEDURES

Abstract
This chapter provides guidelines for starting and will discuss *RRS 26* the ISAF Starting System. . The actions of Race Committee members are given and emphasis is then laid upon starting problems and solutions, also discussing the Starting Penalties I Flag Rule, Z Flag Rule and Black Flag Rule. Finally, the procedure and necessary equipment for Gate Starts are outlined.

Contents

9.1 Starting systems

RRS 26.1 sets out a 5-4-1-0 starting system, however, the Sailing Instructions may change *RRS 26* by specifying another starting system, considering the advantages of using **other time intervals**, e.g. **6–5–1-0.** Where there are multiple starts the system continues at five minute intervals with the new class flag being raised simultaneously as the previous class flag is removed.

Where there are large fleets a **Signal boat** may be stationed between 100 and 200 m to **windward of** the middle of the **starting line**. A signal boat so positioned gives competitors a better opportunity **to see** and **hear signals**. The line under these circumstances is often between two Committee boats, although the pin end may be a marker buoy with a patrol boat in attendance.

The Signal boat is not anchored and **at** the **starting signal**, if the start is clear, it will usually **move rapidly** to the starboard side of the course. For multiple starts it will then return to station or, if there is only one start, it may assume the **role of Lead Boat** and proceed to the windward mark.

One of the **advantages** is that **each signal** is **lowered** one minute **prior** to the next being displayed. This not only gives the competitors **extra time signals** but **reduces** the **confusion** which sometimes follows from having multiple signals flying at any one time. The idea of removing signals before the following signal is being displayed is also part of the **new starting system** outlined in *RRS N 11.1*.

Good **radio communication** from one end of the line to the other and to the Signal boat is important as is **radio silence** during the start countdown, so that the Race Officer can be heard by all RC personnel. The volume should be reduced so that he is not easily overheard by competitors on the water!

9.1.3 RRS26 Starting System

This system is defined as follows (example below: two classes (A and B) to be started successively at five minute intervals):

Minute, related to 1st starting signal	Title	Flag Signal	Sound Signal
–5	**Warning** for A	Class flag A up	1 sound
–4	**Preparatory** for A	Flag P or I or Z or Black flag up	1 sound
–1	(one minute)	Preparatory signal removed	1 sound
0	**Starting** for A; **Warning for B**	Class flag A and other flags removed; Class flag B up	1 sound
+1	**Preparatory** for B	P or I or Black or Z flag up	1 Sound
(+4)	(one minute)	Preparatory signal removed	1 sound
(+5)	**Starting** for B	Class flag B and other flags removed	1 sound

Race Committees are encouraged to adopt this system in order to be consistent all round the world for the benefit of sailors competing in different regattas

An **independent sequence** for each class is becoming increasingly common. In our example the Race Officer could have waited to signal the **Warning + Preparatory signal** for class B until well after the starting signal for class A. The type of sequence to be used must stated in the sailing instructions, if a continuous sequence is being used, subsequent starts may be delayed by signaling a postponement for the relevant classes This signal may, but has not necessarily be given with the starting signal for the preceding class. So the Race Officer may **adjust for changing conditions** (bearing or length of the starting line) and vary the gap between classes depending on relative speeds.

The **Preparatory signal** consists of just one flag and one sound signal, i.e. the **P flag**, however, if one of the **Starting penalties** outlined in *RRS 30* shall apply for that start, the respective flag signal to indicate the relevant penalty (**flag I** for 'round-the-ends', **flag Z** for a percentage penalty or **Black flag** for the Black flag rule) **replaces** the Blue flag/flag P. So **just one flag** has to be displayed, meaning a Preparatory with or without a specified Starting penalty to be in force.

If the weather conditions are changing or if the first class already started is expected to be close to the starting line or if any other circumstance is about to affect the fairness of the succeeding start, the Race Officer should consider delaying the subsequent starts.

9.2 The starting procedure

The **minimum personnel** required are: Race Officer, Gunner, Signals Officer, Timekeeper, and Recorder (see also Section A, **Chapter 2.3**).

It should be remembered that the **visual signals govern**, and they must therefore be displayed and removed with precision.

Although the failure (absence) of a sound signal shall be disregarded (RRS 26.1), the mistiming of a sound signal during the starting procedure is in fact an error of the Race Committee that has no rule that says it may be disregarded. If the mistiming is such that it could result in boats being misled resulting in OCS or perhaps a claim for a late start request for redress, then it would be prudent for the race to be postponed if time permits, or abandoned and restarted.

This **guide** begins **15 minutes before** the **start:**

Start, -15:

RACE OFFICER: Continues to **check wind direction** and velocity, **lays** the **starting line** and checks its accuracy. Receives **radio reports** from **RC boats** around the course on wind strength and direction. Checks that the **team members** are all **on station** and ready.

RECORDER: Continues to **record** the **competitors** as they comply with any Sailing Instruction regarding reporting, and notes in a **diary** any readings or **comments** supplied **by** the **Race Officer**.

SIGNALS OFFICER: Has the **course signal** indicating port or starboard rounding **displayed** (if applicable), and the **Warning** and **Preparatory Signals ready**. Has any other signal flags that may be required at hand, either on individual staffs or furled on halyards ready for breaking.

GUNNER: Ensures that the **gun** (or equivalent sound signal) is **ready** and the safety catch applied.

TIMEKEEPER: Gives **regular time calls**, for example:

"One minute to Warning Signal, prepare Class Flag, one gun";
"30 seconds to Warning Signal";
"10 seconds to **Warning Signal**";
"9, 8, 7, ...3, 2, 1, NOW!"

Start, -5:

SIGNALS: Displays **Class Flag** or other Warning Signal, the signals to indicate the **course** (e.g. bearing to first mark; port or starboard rounding), other applicable signals like code **flag Y** (Wear personal buoyancy) or code **flag S** (Sail the short course). Except the Warning Signal itself (e.g. Class Flag), the other signals mentioned here **may be given** well **before**, but not later than the Warning Signal (*RRS 27.1*).

GUNNER: Fires gun or makes alternative **sound signal**.

RACE OFFICER: Checks that the team are all alert and on station. Continues to receive radio messages on conditions around the course. Continues to take bearings and anemometer readings, alert to any **circumstances that** might **make** it **necessary to postpone** the start. Last chance to adjust the starting line by moving a starting mark (RRS 27.2).

RECORDER: Continues to **check competitors** in the starting area and to **record announcements**.

TIMEKEEPER: Continues to **call time** at one-minute intervals, i.e., "1 minutes to Preparatory Signal": and then a **countdown** as done for the Warning Signal.

Start, -4:

TIMEKEEPER: Announces **Preparatory Signal**.

SIGNALS: Displays code **flag P**, and – when one of the **Starting Penalties** (*RRS 30*) shall apply – in addition either code **flag I**, code **flag Z** or the **Black Flag.** The signal to indicate one of the Starting Penalties may be given well before, but not later than the Preparatory Signal (*RRS 30.1; 30.2; 30.3*).

GUNNER: Makes the **sound signal** to accompany the Preparatory Signal.

RECORDER: **Notes** against a time entry **any information** relevant to the competitors or the conditions or the course.

RACE OFFICER: May start his **tape recorder** and speak what he observes into it for subsequent consideration. Continues with tasks listed as under the Warning Signal, but remains aware that a **postponement** is now required **if** the **starting line** needs **adjusting**.

Start, -2:

TIMEKEEPER: He starts the one-minute **countdown**

RACE OFFICER: Starts **observing** the **starting line**, especially if one of the Starting Penalties is in force. Establishes **radio communication** with the **Lineboat** at the pin end of the starting line.

Start, -1:

TIMEKEEPER: Announces the **last minute**, and begins the **countdown** for the start.

SIGNALS: **Removes Flag P or Flag I** or **Flag Z** or the **Black Flag**, if appropriate, and stands by the halyards or staffs relating to both the Warning and Preparatory Signals.

GUNNER: Makes the **sound signal** .

RACE OFFICER: Continues to observe the starting line, **monitoring boats** about to be or already "**on the course side** of the starting line" (OCS; *RRS 29.1*). Announces (tape recorder) **OCS infringements**, if the I Flag Rule (*RRS 30.1*)is in force. Identifies **boats within** the **triangle** formed by the ends of the starting line and the first mark, if the Z Flag Rule or the Black Flag Rule is in force.

RECORDER: **Notes** any boats about to infringe *RRS 29.1* (**OCS**) or boats that infringe a **Starting Penalty** by carefully listening to the announcements of the RACE OFFICER.

Start:

TIMEKEEPER: Having given the countdown, the timekeeper **calls the start**.

SIGNALS: **Removes** the **flags** appropriate to the start, and displays the Warning Signal for the next class, if appropriate.

GUNNER: Makes the **sound signal** for the start and **stands by** for any subsequent sound signals such as may be required for an **Individual** or **General Recall**.

RACE OFFICER: **Sights the line** to determine whether to:

* pronounce a **clear start**;
* call an **Individual Recall** for any identified boats on the course side of the starting line (applies when no Starting Penalty or the I Flag Rule is in force); or
* order a **General Recall**.

This **decision** has to be made very **rapidly** and for consultation, the Race Officer should be in **radio contact** with his **Lineboat** at the time of the start. A good system is for the Race Officer to be **silent** at the moment of the start, enabling the Lineboat to say: "all clear"; "we've got the ones at our end"; "we've got them all"; "too many", or any other similar message agreed on beforehand. The Race Officer can then compare this information to his own observations and immediately make the call. Please also see our Recommended Race Management Policies, **Chapter 15.3**.

Start, + :

SIGNALS: If appropriate, displays code **flag X** for an **Individual Recall** until all boats have complied with *RRS 29.1* or *RRS 30.1* (if it applies), *but not later than 4 minutes after the Starting Signal or one minute before any later Starting Signal, whichever is earlier* (*RRS 29.2*); or he displays **First Substitute** for a **General Recall** and waits for the RACE OFFICER to announce the next starting procedure; or he prepares to display the Preparatory Signal for the next class; or he stows all signals away except those identifying the Starting vessel as "on station".

RECORDER: The **sail numbers** of any **OCS** boats or of boats having infringed the Z Flag Rule or the Black Flag Rule must be checked against the entry list and passed on to the Finishing Vessel to go into the **results**. If boats have been **identified** by their hull, crew or equipment rather than by their sail number, the Race Committee has to find out which sail numbers belong to each of these boats. It has to make sure that no error might have occurred

in identifying those boats.

In case of a General Recall under the **Black Flag** Rule or in case the race is abandoned, the **sail numbers** of any boats being disqualified due to this rule must also be quickly checked against the entry list and then **displayed** from the Starting vessel (or Signal boat) on a whiteboard, so that all competitors can check it before the next Preparatory Signal (or the next Warning Signal) is given.

The RECORDER also **records** the starting **time**, **checks starters** against entries and confers with shore base for **missing competitors**. Organizes the recorded notes taken during the starting procedure.

TIMEKEEPER: If there are no Recalls or other classes to start, he relaxes from intense concentration which accuracy demands. If there is an **X flag** up, he will indicate when 4 minutes have passed since the start (or indicate one minute before any later Starting Signal, if this is earlier). If there is a **General Recall**, he will let the Race Officer know when the next five-minute sequence starts, so that the **next starting procedure** can be begun. If there is **another class** to start, he will do the usual **countdown** towards the Preparatory Signal, etc.

RACE OFFICER: In case of an **Individual Recall**, he will **watch for** the **OCS boats** to return and start correctly, keeping radio contact with his Line boat. In case of a **General Recall**, he will **start** a **new sequence** as soon as possible, but may need to let one five-minute interval pass to **adjust** the **starting line**. If another class is to start, he also has time until the Preparatory Signal to make any line adjustments. After the start he begins **race surveillance**, in particular looking for wind variation and strength which may require a course change, or lead to competitors having difficulty.

9.3 Starting problems and solutions

9.3.1 Starting line

The starting line should be **between two** Race Committee **boats with radio contact** or between a Race Committee boat at the starboard end and a marker buoy (often called the "pin") at the port end, in which case the buoy end of the line should be supervised by a Lineboat, also in radio contact. For large fleets of 60 or more boats it may be desirable to have a two-part starting line with an **additional** Committee **boat centred** between the other two. This central boat must be small and preferably a rubber dinghy. Such a system in combination with a well laid line reduces the number of unidentified boats on the course side of the starting line.

For further information on **laying** the **starting line**, please also refer to **Chapter 8.4**. For general matters on how to **sight a line** see **Section D** on Racing Rules and Race Management **Policies**.

9.3.2 Line identification

The line should be **identified** by **flags** or **shapes** (preferably orange) as described in the Sailing Instructions. They should be **attached** to a staff or pole; this gives precision to the line both from the competitors' point of view from the water and that of the Race Officer who will be sighting along it.

9.3.3 Floating lines

As with all marker ground tackle, **anchor lines** should be weighted a few metres **below** the **surface** to prevent boats from fouling them. See also Section A, **Chapter 4.8**.

9.3.4 Line adjustment

Up to the Preparatory Signal (see *RRS 27.2*), **changes** to the starting line must be possible **at short notice**. Timely adjustments correcting the line for wind shifts and/or tide can make the difference between a perfect start and a General Recall. See also **Chapter 8.4**.

9.3.5 Delays

Starts should not be delayed unless conditions are unsuitable. There should **not be a delay** because **competitors are late** unless the late arrival is due to an action or omission of the Race Committee such as a postponement signal ashore, unforeseen launching problems reported by the Beach Master, etc.

9.3.6 Boats on the course side of the starting line

The **problem** of boats **on the course side** of the starting line at (or during the minute before) her starting signal and **General Recalls** can be **reduced** by a number of **practices** (see also **Section D** on Race Management Policies):

Adjustment of the **line** to increase or reduce the amount of bias will help and this can be done right up to, but not after, the Preparatory signal. Good radio contact between Race Committee boats will help as will the prompt calling of boats over the line. **Individual recalls** should be made **promptly** after the Starting Signal in order to demonstrate the Race Committee's intention to detect premature starters and provide a good, fair start.

Events with **large fleets** are regularly plagued by the problem of "premature starters" and **General Recalls**. Some Race Officers feel that a General Recall should always be signaled unless all boats on the course side can be identified. There is no rule requiring this; in fact, the contrary is true.

RRS 29.3, General Recall, states:

When at the Starting Signal several unidentified boats are on the course side of the starting line or there has been an error in the starting procedure, the Race Committee may signal a General Recall.....(emphasis ours).

The Race Officer must **weigh up** the **pros and cons** of allowing perhaps one or two **offenders** to escape **against** the penalty that a General Recall may impose upon a large number of competitors **who made a good start**. Every effort should be made to **identify at least** the **principal offenders** and to apply the Individual Recall procedure to them. By identifying most boats on the course side and using an **Individual Recall** signal to bring them back, a salutary lesson is conveyed to the fleet and, at the same time, those starting correctly are rewarded (see also **Section D** on Race Management Policies).

I Flag Rule

Troublesome fleets can be brought into line by applying *RRS 30.1* - the **I Flag Rule** (former

also called "Round-the-Ends" Rule) - either to all starts or after the first start. However, this penalty is generally not favoured by competitors and Race Committees. Especially when there is a large fleet, it provides grossly **disproportionate penalties** depending upon where a boat is on the starting line.

Black Flag Rule
A rather drastic penalty is the **Black Flag Rule** (*RRS 30.3*) which provides for **disqualification** (without a hearing) of any boat being identified **within** the **triangle** formed by the ends of the starting line and the first mark **during** the **minute before** her starting signal. If the race is **restarted, resailed or rescheduled**, those boats are **not entitled** to compete and have to leave the racing area during that race. And if a General Recall is signaled or the race is abandoned, the Race Committee shall **display** the **sail number** of any boat disqualified under this rule.

However, this penalty should remain as '**a last resort**' for a Race Officer to communicate with the fleet, and its use is only recommended after every effort to use **individual recalls** has been unsuccessful. The most unfavorable situation would be a series of consecutive General Recalls under the Black Flag Rule, which would turn into cutting the fleet down into a small group that is still entitled to compete in that race.

Z Flag Rule
The Z Flag Rule (*RRS 30.2*) can be interpreted as a mild version of the Black Flag Rule. The **restrictions** for boats being the same, **as** with the **Black Flag** Rule, the penalty will be only given to infringing boats **if** there is a **General Recall** signaled. And the penalty will not be disqualification but a **scoring penalty** of 20%, i.e. (calculated as stated in *RRS 44.3 (c)*) the boat will be given a score worse than her actual finishing place by the number of places **nearest to 20% of the number** of boats **entered**. However, the boat shall not be scored worse than Did Not Finish. If the race is **restarted, resailed or rescheduled**, the penalty shall **still** be **given**.

Example: 54 boats had entered in a regatta; 20% of 54 boats is 10.8, rounded to the nearest whole number results in 11. So 11 places will be the 20% scoring penalty for all races in this regatta. If a boat is then identified infringing the Z Flag Rule in a race (and there is a General Recall due to *"several"* unidentified other boats on the course side), and this boat actually finishes place 17, she will be given a score of 17 + 11 = 28 in the results' list for that race.

Note: if boats infringe the **Z Flag Rule**, but there is no General Recall, those boats will receive an **Individual Recall** and will be treated under *RRS 29.1* and *RRS 29.2*. So boats deliberately starting early will have no advantage except that they might interfere with other competitors heading for a good start. See also Section D, **Chapter 15.3.7**.

9.3.7 Miscellaneous problems

Other problems include setting a **starting line** in light conditions **with strong currents**, particularly upwind currents (see **Chapter 8.8**). Similarly, very **deep-water**, **limited visibility**, or **light** and extremely **variable winds**, etc. can all be trying conditions for the Race Officer as well as the competitors. Careful preparation and selection of **equipment** may help with some of these, but others **may call for postponement**.

The Race Officer may avoid some of the frustration among competitors by using **code flag L**

and informing competitors as to the nature of the problem. Generally the well-prepared Race Committee directed by a thoughtful and levelheaded Race Officer will find solutions to all problems.

9.4 The Gate Start

9.4.1 General

Classes expecting a **large number of entries** sometimes use "Gate" Starts. These can **reduce** the problem than of the **line bulging** and the resulting General Recalls, which often occur with the very long starting lines required for large numbers. Gate Starts are **also** used **offshore** when high waves or difficult anchoring for marker buoys make it desirable. Although not always an easy answer to starting problems, it is a recognized technique in race management. However, the Gate Start **can create** far more **problems** than a conventional start if used without a good understanding of the procedure.

9.4.2 Procedure

1. The **fixed** starting **line** is **replaced by**:
   - a free-floating **port-end mark**; and
   - a guarded "**Pathfinder**" boat, which sails away from this mark on a port tack, thus creating a steadily opening gap (the "Gate") between the mark and the Pathfinder boat.
2. All boats **pass through** the **Gate** on starboard tack, choosing their own time for leaving the Gate. In **ideal conditions**, if all boats sail at the same speed as the Pathfinder, a boat leaving the Gate **just after** it has been opened, should have **no advantage** over a boat that passes through the Gate close behind the Pathfinder, five minutes or so **later**.
3. To annul tidal effects, the **port-end mark** is usually a **free-floating** mark.
4. To protect the Pathfinder's stern, a **Gate Launch** traveling close astern acts as an extension of the Pathfinder and represents the **starboard end** of the Gate. The **free-floating mark** is usually **dropped** by this Gate Launch **just before** the Starting Signal.
5. The Race Committee Official on board the Gate Launch can **release** the **Pathfinder** after most boats have started. The **Gate Launch** then **continues** at the same speed and on the same compass bearing, to allow the remainder of the fleet to start.

6. A **separate Guard Launch**, if used, traveling on the starboard side of the Pathfinder, gives additional **protection to leeward**.

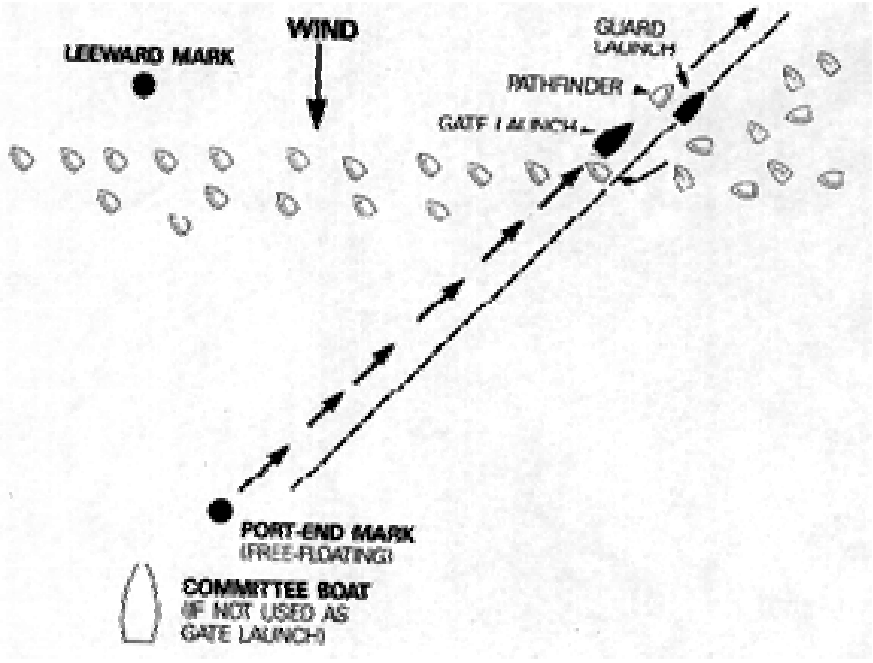


Illustration of a Gate Start, with free-floating port-end mark, Pathfinder and two Launches.

7. While under the control of the Gate Launch, the **Pathfinder** has **right-of-way** over all other boats.

8. It is general practice to **select** as **Pathfinder** the boat that finished **10th in** the **previous race**. For the first race, the Pathfinder is usually determined either by the Practice Race results, or by draw from among the boats likely to finish in the top 25% overall. It is usual to exempt a boat from further duties as Pathfinder once it has performed them, and to take the next boat in order.

9.4.3 Operation

1. Code **flag G** is displayed to indicate a Gate Start.

2. The Committee boat, the Gate and Guard Launches, and the Pathfinder, station themselves **some distance** directly to leeward **of the leeward mark**. The distance below the mark contributes to the length of the first beat of the race and may vary from nil to half a mile. The Gate Launch may also be the Committee boat, in which case, two launches do the work of the three in the diagram (see above).

3. All **signals** are given **from** the **Gate Launch** and may be repeated by the Committee boat.

4. **Fifteen seconds before** the **starting** time the **Pathfinder**, on a pre-arranged signal, **begins** a close-hauled **port-tack course** with the **Gate Launch** following between one and three boat lengths astern. The **Guard Launch** steers a parallel course to the Pathfinder at 45 off her starboard bow and at a distance apart so that her wash does not interfere with the

Pathfinder.

5. **Three seconds before** the **starting** signal, a **free-floating mark** is **dropped** from the starboard quarter of the Gate Launch. Boats may start on starboard tack after the starting signal, passing between the free-floating mark and the stern of the Gate Launch.

6. When the Race Officer on board the **Gate Launch** is satisfied that he has the speed and compass bearing of the Pathfinder's port tack, that the wind is steady and that most of the fleet has started, he **may**, by hail, **release** the **Pathfinder** which may then tack on to starboard or continue on port, as she wishes. After being released, the Pathfinder **no longer** has any **right-of-way** on port tack (see paragraph **9.4.2**, item **7**).

7. At his discretion, the Race Officer will, subject to the Sailing Instructions, **stop** the **Gate Launch**, drift for an allowed time, and then **close the Gate** by **removing** code **flag G**. No boats may subsequently start.

9.4.4 Natural conditions required

For the Pathfinder to sail a course that will result in a **fair Gate Start** the **wind must be**:

* **steady in direction**. A 5-10° oscillation could be acceptable if the period of the oscillations is reasonably constant and predictable during the start;
* **between 2 and 6 Bft (4-27 knots)** in strength. A Pathfinder having to search for wind or fight for survival is no good to the Race Officer or the fleet.

The **sea conditions** must also be:

* such that the Pathfinder **can sail** a true course at a **constant speed** without having "to play the waves" for safety, **although** it should be remembered that some classes **preferring open water** to harbour water may, when there is a good sea running, **best** be sent on their way **with a Gate Start**;
* **non-tidal** or with a tidal stream of constant rate and direction in the starting area.

9.4.5 Equipment

1. If a **Committee Boat** is used, it will require the starting **equipment** to meet the **normal procedure for starting** as outlined in *RRS 26* or such modification of it as the Sailing Instructions may require (e.g. *RRS N 11.1*). As indicated above, the Gate Launch may be the Committee boat or it may duplicate the signals of a separate Committee boat.

2. The **Gate Launch** must be **large enough** to accommodate the Race Officials together with the normal operating crew and have aboard starting equipment, a free-floating mark, a signal mast and flags. A good size for such a vessel is **between 6 and 8 metres**. If it is any larger, the Pathfinder may obtain too great an advantage when it is released.

3. The **Gate Launch** should be capable of maintaining a true course (with an accurate and easily read **compass**) astern of the Pathfinder **at all speeds** over 3 knots, should not tend to drift off course, and be capable of doing 12 knots. It should have an effective **fender** all around the boat.

4. The Gate Launch and the Guard Launch **helmsmen** must be **competent** and able to maintain a constant position astern or starboard of the Pathfinder.

5. The **Guard Launch** must be large enough to **provide protection** for the Pathfinder and be of similar capability in terms of **speed and maneuverability**.

6. The **Guard Launch** should have a **mast** of sufficient height to enable competitors to **see her** distinguishing **flag** and note her position.

7. The **free-floating mark** should be **large and bright** to be seen in the prevailing conditions.

9.4.6 Other considerations

A Gate Start is subject to a **General Recall** just like a conventional start. It may be signaled when the Race Officer considers the **start** to have been **unfair**, or when the Pathfinder, the Gate Launch or the Guard Launch is **interfered with** by boats in such a way that the operation of the Gate is impeded. The usual cause of a General Recall is a **wind shift** sufficient to **favour one end** of the line.

Interference with the **Pathfinder** may lead to **disqualification** of the competitor concerned and this must be made clear in the Sailing Instructions and at the briefing.

A Gate Start should allow all competitors of all standards an **equal start** but its smooth **operation depends**, for its success, on the skills of the Race Committee, the courage and skill of the Pathfinder, some competitors experienced in Gate Starts and the dependability of the Gate and Guard Launches. An attempt to use a Gate Start without these qualities is likely to end in failure.

10 DURING THE RACE

Abstract
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.

Contents

10.1 Fleet surveillance

With racing under way, there is still little time for the Race Committee to relax. The **wind** must be **constantly checked** for variation. Abandonment and re-sail may have to be considered if there is a **major wind change** during the **first leg**, or when **conditions** are extremely **heavy**, in which case safety factors require that the fleet be under constant observation.

The Race Officer will want to ensure that the **Patrol teams** are strategically placed to deal with emergencies. In case of **little wind**, close observation is also necessary: many classes have Championship Rules defining the **maximum time** allowed for a leg or a lap, or the **minimum wind** or **boat speed** required, so there may be time limits to consider.

Information on wind strength and direction should come in or be sought **from** the **RC boats** around the course. The **position of** the **leading competitors** should be known at all times in case decisions have to be made regarding a course change.

The recording of **mark roundings**, of 360 or 720 **penalty turns** and of **protest flags** seen all comprise useful intelligence which should be recorded. Mark boats should all have a list of entrants and then be advised by the start boat the number of actual starters, mark rounding records can then be reconciled with the list of starters as the last boats round the mark, any boats not recorded should then be accounted for. Retirement sheets should be available on shore for signing by boats that retire as soon as they come ashore.

For more on **Abandonment**, see **Chapters 8.7.1 (Setting the Course) &15.3.6** (Race Management **Policies**). **No** specific **guidelines** can be given as to when to abandon and re-sail a race and when to continue. Any decision on this matter should be made considering the "**pros and cons**" for each competitor. The ability to know when to do it and when not to is one of the means by which a Race Committee can prove its skill and experience. It is up to the Race Officer to make this decision based on his experience and the information he receives from his fellow Race Committee members around the course but only as a last resort after considering all other options such as altering or shortening the course. Once a race has started every effort should be made to achieve a finish.

10.2 Course changes

If the reports the Race Officer receives from the various boats around the course (particularly the one on the windward side of the course) indicate that the **wind** is **shifting on** a **permanent basis** and that the new wind direction is likely to prevail for at least the duration of the next windward leg, he may decide to **move** the **windward mark**. Other marks, too, may be moved to restore the shape of the course. How marks are to be moved and how this is to be signaled to the sailors can be found in Section B, **Chapter 8.7** (Adjusting a course for wind changes).

Whether or not the course is to be changed will depend on a variety of considerations. The leading one must always be that the course change will result in the **race** becoming **fairer**. Changing the course in a long race will be more effective than a change in a short race. If **races** are **short**, there will usually be more races to follow and it might prove better to leave the course for the moment and **set** a **better** one **for** the **next race**.

Whether there is an opportunity to change a course will also depend on the **number of classes** sailing on the course at the same time, the spread of the boats around the course and ─ equally importantly ─ the **local conditions** and the **skills of** the **Race Committee.** It has to handle the process in such a way that there will **never** be any **confusion** for the competitors. It is far better to keep going on a poor course and consider shortening the course at a mark (make sure that the class or championship rules allow races to be shortened) than to mess up a race because some boats believe they must go to mark X while the rest of the fleet are heading for mark Y.

As in the case of abandonment, the ability to **change** the course ─ and knowing when to do it and when not to ─ is a **typical Race Officer skill**. It is up to him to decide, on the basis of his experience and the information received from the other Race Committee members. See also Section D, **Chapter 15.3.9**.

11 THE FINISH

Abstract
Various kinds of finishing line used on different course types are described. Emphasis is made on how to lay a finishing line: it should be at right angles to the direction of the course from the last mark, and it should be relatively short (12-15 boat lengths). The major jobs of the Finishing team are mentioned as well as some further aspects of the Finishing procedure.

Contents

With the race **two-thirds completed** and at the discretion of the Race Officer, who will want to allow time for any problems he may meet in **setting** the **finishing line**, the Starting vessel, or a separate Finishing vessel, moves to the location of the finishing line. A separate **Finishing vessel** is particularly **useful** if another start is scheduled, as it allows the Starting vessel to remain on station and begin the next starting sequence as soon as the fleet has returned to the Starting area. See also Section B, paragraphs **8.6.1** and **8.6.3.**

11.1 Types of finishing line

There are **various kinds** of finishing line:

Type 1 – Mark / Finishing vessel

A line consisting of a **Mark of the course** at the port end **and** the **Finishing vessel** at the starboard end. For an old-style Olympic course this will usually be Mark 1, i.e. the race ends with a beat. However, with a shortened course, it is also possible to finish at Mark 3. The important thing is to ensure that the boats will **automatically cross** the **finishing** line **when rounding** the mark (this is for a port hand course).

- This type of finish is appropriate when there is only **one class** and its ability is reasonably uniform, with **no boat** being more than **one lap ahead** of any other.

Type 2 – Separate line / upwind or downwind

A **separate finishing line** approximately 0.1 to 0.2 NM (or less) to **windward of Mark 1**, the race ending again **upwind** with a beat, or approximately 0.2 NM (or less) to **leeward of Mark 3**, the race ending **downwind** with a run. The advantage is that any boat that still needs

to round the mark (e.g. when there is more than one class on the course) can do so without being hindered by boats finishing.

- This type of finish is used where there are **several classes** competing on the same Race area, with reasonable fleets of up to 60-70 boats; and for one-class races with a **large fleet** and **mixed ability**.

Type 3 – Separate line / reaching leg

A **separate finishing line** at the end of a **close reaching leg**, between a separate Finishing vessel port-hand and a nearby starboard mark. The finishing line must be **at right angles to** the direction from **the last mark**.

- This type of finish is used for the **Trapezoid Inner** and **Trapezoid Outer** Course (no upwind finish). For the position of the Finishing vessel, see Section B, paragraph **8.6.2**.

Type 4 – Land mark / buoy

A typical **long-distance course** finish is one where boats have to cross the imaginary line between the Finish **buoy and** a **mast ashore**, in the direction of the course from the last mark, **regardless** of **wind direction**.

- This type of finish is also used for the **slalom** (Ins & Outs) **finish** of the **Funboard** class. An alternative is to finish on shore between two masts, but this may damage the boards' fins. A solution would be to arrange for the masts to be planted in the water just outside fin depth.

Whatever type of finish is used, for large fleets and/or close finishes it is recommended to have a **Lineboat** at the port end of the finishing line, **with** an **extra recording team**.

11.2 Laying the finishing line

If there is an **assisting RC boat**, the Finishing vessel may anchor in approximately the right position and then ask the other RC boat to lay the Finishing Mark, following the same procedure as that for the pin end of the starting line.

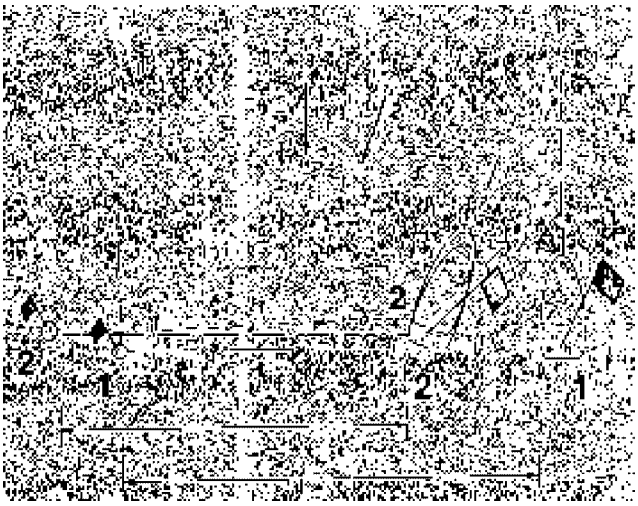
If the **Finishing vessel** is **on its own**, or if Mark 1 is to become the pin end of the line, the Finishing vessel will stop 50 to 100 m to starboard of the mark or the Finishing Buoy it has just laid itself; it will **anchor** a short distance ahead and then **fall back** so that the line between its staff and Mark 1 (or the Finishing buoy) is **at a 90 degree angle to** the **last leg** (port hand course).

There is a common **misunderstanding** that the finishing line is set at a 90 degree angle to the wind. The **definition** according to *RRS Definitions,* of the term "**Finish**" is:

*"A boat **finishes** when any part of her hull, or crew or equipment in normal position, crosses the finishing line in the direction of the course from the last mark either for the first time or, if she takes a penalty, after complying with rule 31.2 or rule 44.2.or under rule 28.1 after correcting an error made at the finishing line."*

In other words, if for any reason it has not been possible to adjust the course, or on the last leg of the course there has been a change in the wind direction, the finishing line should be placed in accordance with the direction of the course from the last mark, that is, **at 90° to** the **course from** the **last mark** and not at 90° to the wind.

This is in fact what happens on the new **Trapezoid** courses. For a full description of the relevant finishing line, see Section B, paragraph **8.6.3**.



Effects of the Finishing vessel and the finishing buoy rotating around their anchors.

In **deep water** one must consider the effect of this criterion, especially with **variable winds**; for example in the case of a wind shift greater than 15 , both the Mark/Finishing **buoy** and the **Finishing vessel** will logically **rotate** around their respective anchors by the same angle (see figure above). They will move to positions 2, but in order to maintain the original orientation one should let out line so that the final boat position becomes 2'. The result is that a line whose original length was 12 boat lengths has been reduced to 10 boat lengths.

The **finishing line** should be **relatively short**: **12-15 boat lengths**, depending on the fleet size, the type of boats competing and the weather conditions. A short finishing line may decrease the chance of massive group finishes; it significantly reduces the margin of error and therefore reduces the possible advantages that may be created by the movement of either end of the line.

11.3 Preparatory tasks

With the "On station" signal (a **blue flag**; see *RRS Race Signals*) together with any other flag called for in the Sailing Instructions (e.g. to indicate another start) aloft, the Finishing vessel **team prepares** itself, noting the approach of the leading competitors and ensuring that they are **not** caught **unawares by** a **boat suddenly appearing** from under their stern.

The Race Officer or his delegate gets ready to **call** the **sail numbers**, **sighting** the **course side** of the staff on board the Finishing vessel and the course side of the pin end mark. Many Race Officers use a **tape recorder** as a useful back-up.

The **Recorder** prepares to record **placings and times** and the **back-up Recorder** gets ready to note the **finishing order** without concerning himself with the times. It is usually not necessary to record every finisher's time (unless it is handicap racing), but it is good practice to write down the **time** against the sail number of **every fifth or tenth boat** finishing.

The Recorder will also **check** whether or not the **number of boats** finishing corresponds with the number that have started. Any discrepancies will have to be accounted for. For **safety** reasons, boats having started in a race but then not finishing (e.g. retiring) or not returning to the harbour should **report to** the **Race Committee** on the water or ashore, as soon as possible. This will avoid search and rescue operations.

The **Recorders' sheets** will be the **data** for the Results' team or the Race Office secretary back at shore base. They will be referred to when any boats want to clear their finishing position, or **request redress** when e.g. a wrong or no finishing position is published in the Results' list.

One team member may prepare to look solely for any **protest flags** flying and to take down **protestees' sail numbers** called by protesting boats.

11.4 Finishing procedure

The instant the **first boat** finishes, sound a clearly **recognizable signal** (e.g. a gun shot), so that the other competitors have a time reference to the first finish; **record** the **hour, minute and seconds**, and calculate the **time limit**.

The finish of the **subsequent boats** *may* be accompanied by a **different sound signal**, such as a whistle or a horn. However, a sound signal for boats finishing is **not compulsory**. It is just a means of communication to the competitor ("We have noticed you crossing the finishing line"); but a sound signal given to a boat does not necessarily mean that boat validly *finishes* according to the *RRS Definitions*. If that boat e.g. infringed the Black Flag Rule, but continues the race and then crosses the finishing line (receiving a sound signal), it still will be scored DSQ (*RRS 30.3* and *RRS A 3*).

For a **handicap regatta** it is vital to record the finishing times of all boats (hour, minute and seconds). In any case record the finishing **time of** the **last boat**, on which the beginning and end of **Protest time** will be based.

At major events there have been successful experiments to **directly transmit** the **finishing order** ashore. This is done by a small laptop computer on board the Finishing vessel connected to the results' computer ashore by a data link channel. This procedure is obviously quicker than the lengthy radio transmission by voice sometimes done after a race.

The above enables **spectators** and the **media** ashore to **receive** the Finishing order **immediately**. And the competitors, too, do not have to wait for their results until the Finishing vessel has returned to the harbour. Transmission of the handwritten finishing order by **fax** is also an alternative.

This transmission procedure sounds much easier than it is, as the communication software has to be suitable and the radio channels may be interfered with by other electronic fields.

However, in the long run, these **technical problems** will be solved, giving competitors a better results' service – not only at major events.

Section C

Post-Race Tasks

12 THINGS TO DO AT THE END OF EACH RACING DAY

Abstract
The topics in this chapter are in their approximate chronological order. Race Committee tasks before and after coming ashore are specified, as checking provisional results lists, collecting race observations and dismissing auxiliary vessels. The Race Officer will not necessarily perform all these duties himself, depending on the experience and reliability of his Race Committee. The duties described here are normally the direct responsibility of the Race Officer or a member of the Race Committee in direct contact with him. Finally, after a racing day, the Race Committee should discuss their own performance and possible improvement.

Contents

12.1 Race Committee tasks before coming ashore

12.1.1 Accounting for all starters

In association with Mark boats, Patrol boats and the Race Office, the Race Officer satisfies himself that all competitors and RC boats are accounted for. Especially in difficult conditions the "**all clear**" is **not** given **until all competitors** and **RC boats** are **ashore**, on moorings or at least in sheltered water. (see chapter 10.1)

12.1.2 Firearm safety

After the **gun(s)** is (are) no longer needed on board, ensure that it (they) is (are) **safely unloaded** and stored below deck ready for cleaning.

12.1.3 Advising essential particulars

Some **reporting** needs to be done without delay.

1. If **measurement checks** are done ashore rather than on the water right after finishing, the Measurer will want to know **when** the **boats** he must check will **be in**. Often it will be determined beforehand that whichever boat finishes 1, 3 and 5 (or any other place) will have to undergo checks.
2. The Race Office must know the time of the last boat to finish in order to **calculate** the beginning and end of **Protest Time**.
3. The Chairman of the Protest Committee will appreciate some indication of the **number of protest flags** seen by the Race Committee. He can then decide at what time the first hearing should start, and begin to inform the members of his committee.

12.1.4 Advising full results

Every attempt should be made to **transmit** the **finishing order** to the Race Office as soon as possible. It will be greatly appreciated by competitors and coaches alike when a provisional finishing order, even if simply handwritten, is **posted on** the **Notice Board** when they return ashore.

If the **finishing list** to be **transmitted** is long, it is sensible to have short **radio breaks** after every five or ten sail numbers, to ensure that others can interrupt in case of an emergency. If there is time, ask the Race Office to **read back** the **numbers** they have taken down (see also Section B, **Chapter 11.4**).

While returning to shore, the opportunity should be taken to **check** the lists **for** any **discrepancies**, such as duplicated numbers or back-up lists showing a different finishing order. In the meantime back on shore, the Results team may well have calculated provisional results. If the Race Officer and his on-board Recorder are satisfied that the lists are correct, it simply remains to ensure that they **correspond with** the provisional **results** waiting **ashore**.

12.1.5 Lifting marks

Usually the **Course Setter** will want to pick up the marks himself, to be pre-pared for the next racing day. If, for expediency, **several boats** are lifting marks, instructions should be given as to where the marks should be **assembled** so that the Course Setter can immediately collect them to avoid having to search for them the next day.

12.1.6 Dismissing auxiliary vessels

Some vessels may already have **reported** that they are **leaving** the **course area**. It is very important, especially in open sea or fresh conditions, that there be a **sufficient coverage of** the **returning fleet** and the Race Officer may have to give some instructions to achieve this. However, when the time comes to dismiss the auxiliary vessels, it should be done positively. They should be **thanked for their services** to the regatta and, when appropriate, reminded of the **rendezvous time** for the next race.

12.1.7 Advising auxiliary services

When Coast Guard, Harbour Board, Life Boat or such services have been on standby, it is **common courtesy** to sign them off with an **expression of appreciation.**

12.2 Race Committee tasks after coming ashore

12.2.1 Firearm safety

The **gun(s)** must be properly **cleaned** and prepared for the next racing day. All guns must be **locked away** safely overnight.

12.2.2 Special notices

The **result sheet** will be the **official source** of information and, in terms of the rules, is all that is required. However, it may well be regarded as a desirable courtesy to **inform** any **OCS** boats or other **disqualified competitors** through separate notices on the Official Notice Board, giving them ample time to consider their rights to request redress.

12.2.3 Official results

Any **results** posted prior to the closing of Protest Time will be "**provisional**". If no protests are lodged within the stated time, the results will be "**confirmed**". Of course, there are still circumstances under which these can be upset in terms of *RRS 61.3, 64* and *66*.

Details on how to **deal with protests** can be found in *RRS Part 5 (Protests, Hearings, Misconduct and Appeals), RRS Appendix L I (Recommendations for Protest Committees) and RRS Appendix M (International Juries),* Section A, **Chapter 2.4** and **Appendix 2A** of this Manual, and in the **ISAF Judges Manual**.

Often the **media** will be waiting for the provisional results for their news items. The Publicity Officer should make sure that they are **supplied with results** and any other information, stressing, however, their "provisional" nature.

For more details on **scoring**, see **Appendix 12A** of this Manual and *RRS A (Scoring).*

12.2.4 Collecting race records

The Race Officer will want to have available to him any **race observations** that have been recorded: **mark roundings**, audiotapes of **starts** and **finishes**, other observations which have been logged on auxiliary vessels such as 360° or 720° **penalty turns** observed, and any misdemeanors such as **contact between boats** which might call for action under *RRS 14*. It is good practice for all auxiliary vessels to log all observations during each race. All records should be kept in the Race Office, as they **may be required** by the Race Officer or the Protest Committee after the race.

12.2.5 Initiating protest sequence

The procedure stated in the Sailing Instructions regarding the **expiry of protest time** will have been initiated by the Race Office before the Race Committee comes ashore. As the person responsible for "his" course, however, the **Race Officer** will want to **check** that these tasks have all been dealt with.

12.3 Evaluation of performance

The answers to the question "**How well did we do?**" may come from the Race Committee itself or from the competitors. Both the Regatta Organizing Committee and the Race Committee(s) should **discuss** their **own performance** and how it might be improved.

The **opinions of** the **competitors** are well worth considering, keeping in mind, however, that those who have done well will almost certainly think that the organization was good, whereas those who are disappointed in their performance will only be too ready to find fault elsewhere, and the **Race Committee** is the **likely target**.

However, the conscientious Race Officer should appreciate that no matter how experienced he may be, his performance will often be **capable of** some **improvement** and a skipper with a lot of regatta experience behind him may well have some useful comments to make.

13 THINGS TO DO AT THE END OF THE REGATTA

Abstract
At the end of a regatta the final results have to be calculated in accordance with the scoring system that shall apply. Then, careful planning is necessary to properly award the prizes during a hopefully enjoyable prize-giving ceremony which fits in with the character of the event. Some hints are given how to make this ceremony a dignified and memorable conclusion of the regatta.

Contents

13.1 The final results

The **final results** have to be calculated **in accordance with** the **scoring system** described in the Sailing Instructions, usually the **Bonus Point** or the **Low Point Scoring System**, as described in *RRS A*.

This process of producing the final points tally may simply be another computer print-out such as those that have followed each day's racing, dropping each boat's worst score and updating the tally. **Without** a **computer** it can be a somewhat **laborious process**, especially with a large fleet, tallying the points, identifying the worst scores, deducting the appropriate number of points, applying the procedure for tie-breaking and then allocating the final places. See also **Appendix 12A**.

Once the Race Officer has checked the tabulation and **handed over** the **results**, he and his Race Committee may consider their **task completed**.

13.2 Prize-giving ceremony

The prize-giving is usually associated with the major **social function** of the regatta, often a formal dinner, and the organizing of this part of the function is the responsibility of the Social Committee (see Section A, **Chapter 2.9**). The prize-giving ceremony itself, however, requires **careful planning** to ensure appropriate dignity and a **memorable conclusion** to the regatta. The **prizes** should be set out on an appropriately **decorated table** and in the order in which the presentation is to occur.

There will often be a number of speakers, but the number and length of the **speeches** should be **kept to a minimum**. They might include the Commodore of the Host Club, the Race Officer or Regatta Chairman, who may wish to acknowledge the contribution of his team and the sportsmanship of the competitors.

The **highest ranking official** of the Class Association on whose behalf the regatta has been conducted, and a **local dignitary** such as the Mayor of the town will also want to speak. There may be further brief speeches from the **principal winners** (winner only or top three). It

is recommended to brief speakers as to the time they have been granted.

The first awards may be expressions of **appreciation** to **various people**. Following those, as a general principle, the most **commonplace awards** should be presented such as the mementos that are given to all competitors. These might be followed by an intermission with some **"fun" awards** (furthest travelled; most capsizes; sprint prize). **Heat prizes** might follow and then the **overall prizes**. Next might be **special championship prizes** such as the top-placed junior, the top-placed lady or veteran, and then last of all, the **overall championship winners** in ascending order so that the final prize is the climax of the evening.

It is so **easy to spoil** an otherwise **enjoyable occasion** by drawing it out unnecessarily. It is just as easy to spoil it by poor organization so that the **wrong prizes** are given to recipients and time is spent searching names and inscriptions. The person calling the competitors forward to collect their prizes should ensure that he has their **correct names**, and that he knows **how to pronounce** them. Except in the case of singlehanders, **never** mention or **call only** the **helmsmen**, and always make sure that the crew prizes are the same as those for the helmsmen.

The **top prize** should **end** the proceedings except for the briefest of farewells and extending **good wishes** for a **safe return home**.

14 POST-REGATTA TASKS

Abstract
There are still a number of important matters to be attended to once the prizes have been awarded. They are in the hands of the Regatta Organizing Committee or their delegates, e.g. transport assistance to competitors, return of equipment and balancing the books. A final evaluation report will be appreciated as support for future events.

Contents

14.1 Logistics

14.1.1 Transport

If competitors, protest committee members, etc., were enthusiastically assisted on arrival, then it is not only courteous but will leave a fine impression of the venue and the regatta if the same **assistance** is **available** to them **when they depart**. Especially those who have contributed with their services free of charge, and therefore often at considerable expense to themselves, should be looked after.

14.1.2 Removal of signs

Most major regattas today have **sponsorship**, declared by the display of **banners and signs**. Once the regatta is over, these should be dismantled and disposed of, by returning them to the sponsors or whatever is appropriate.

14.1.3 Return of equipment

Most major regattas **borrow equipment** of some kind from other Clubs and associations or from individuals. It makes good sense to **make up** an **inventory** of the borrowed equipment as soon as it is collected. After the regatta this can then be used as a means of checking that equipment has not been lost and is ready for **return** to its owners **in** as **good** a **condition** or better than when received.

14.2 Administration

14.2.1 Formal report

In the case of a major event, a **formal report** is usually required for the ISAF, the National Authority, the sponsors, etc. This is the **responsibility of** the **Regatta Chairman**, who, in compiling it, will probably work closely with the Race Officer(s). The **Class Association(s)** may also **expect** a **report** and will wish to review the regatta and make **recommendations** for the future.

14.2.2 Letters of thanks

Letters of thanks will need to be written to a number of people, and they need to be written **immediately after** the **event**. In some instances they may well contain contributions to **expenses** or a request for people to indicate the extent of their expenses. In this latter case, some preliminary understanding should have been arrived at around **budget time**.

14.2.3 Finance

When sufficient time has elapsed for all accounts to be in, but not so much that memories have dimmed and Committee members begun to apply themselves to other matters, **final accounts** should be **passed for payment** and the books balanced. Hopefully, it will be necessary to decide what will happen to the credit balance but **if** the **worst happens**, and then it may be a matter of deciding how to meet the shortfall!

14.2.4 Final evaluation

The Regatta Organizing Committee may wish to **record** considered views on the whole administration of the regatta, the areas of **special success** and any **shortcomings** that ought to be avoided on another occasion. Such records can be invaluable to the next Organizing Committee and contribute towards an improved standard. Such an **evaluation** should also be **offered to** the **Class Association(s)**, which would do well to require routinely such an evaluation report for their World and Continental Championships. The **Host Club**, which in all probability shared responsibility as the Organizing Authority in terms of *RRS 87.1*, may also seek an evaluation report, so that it is also aware of its **regatta strengths** as well as any **problem areas**.

Section D

Recommended
Race Management Policies

15 RECOMMENDED RACE MANAGEMENT POLICIES

Abstract
In order to achieve a good standard in Race Management it is very important for a Race Officer to know the *Racing Rules* closely related to his responsibilities, as his decisions will affect the standard and success of a race. Assisting with this challenge, we recommend some Race Management Policies on important matters like sighting the line or abandoning a race.

Contents

15.1 Racing Rules and Race Management

A significant **difference** between those involved in **race management** and those involved in **judging** appears to be the way they **handle** the ***racing rules***.

Judges usually have a more **detailed knowledge** of the *racing rules*, simply because their attention is drawn to them more often when they hear a protest or deal with a request for redress.

Race Officers, on the other hand, tend to be more **practical**, not really interested in formalities and the exact wording of rules in the book. Yet there are some **rules** ─ both managerial and actual sailing rules ─ that have a very **close link with race management**.

For instance, *RRS A 5* allows the Race Committee to score a boat as failing to *start* or to *finish* without having to protest her. In other words: the Race Committee has the **power to decide** whether a competitor is **sailing a valid race** or not. The least you would expect the Race Officer to know is the meaning of *start* and *finish* ─ and that these words (in italics) relate to ***Definitions*** which can be found in the *racing rules*.

Let us bear in mind that a **considerable percentage** of the cases that are heard by Protest Committees and Juries relate to **requests for redress** by competitors because they feel the Race Committee has made an improper action or omission that has made their finishing place, through no fault of their own, significantly worse (*RRS 62.1*).

A good **Race Officer** must **understand** the game of sailing and part of this is a thorough knowledge of the **rules of** the **game**. Although a Race Officer may have no direct interest in judging and hearing protests, it will prove to be extremely useful if he **attends** a **seminar** or a clinic for judges ─ even if this is only at a local level. This will widen his scope of understanding of the game and increase his confidence when he has to make **difficult decisions** on the spur of the moment. Sailors will immediately sense that the Race Officer knows what he is doing and this will have a **positive effect on** the **standard of** the **races**, on the behaviour of the fleet at the start, etc.

The rules discussed below are directly related to race management. **Race Officers** should have an **active knowledge** of their content, which means that they should read through them regularly. When a Race Officer **writes Sailing Instructions**, it is essential that he reads the rules relating to signals, setting and moving the course, recalls, sailing the course, etc., every single time. Only by doing this will he be able to make sure that his Sailing Instructions are **not in conflict with** the ***racing rules*** and, equally importantly, that they do not repeat the *racing rules* – least of all in a slightly different manner.

Based on a sound knowledge of the racing rules, Race Officers should make their actions relating to these rules with a **common sense of good Race Management practice**. As it is not at all easy to define what good Race Management practice is, there are some **guidelines** for the more often occurring Race Management actions and decisions, called **"Recommended Race Management Policies"**. They are incorporated in this Chapter referring to the relevant *racing rules*.

It is our goal not only to increase the understanding of the *racing rules*, but also to build up a sense of good Race Management practice and to openly **discuss** the **development of** these Race Management **Policies** with all concerned.

15.2 RRS Definitions

15.2.1 Racing

A boat is racing from her preparatory signal until she finishes and clears the finishing line and marks or retires, or until the race committee signals a general recall, postponement, or abandonment.

The definition states that a boat is **racing from** her **Preparatory** Signal. **Before** her Preparatory Signal a boat shall **only** be **penalized** for infringing a rule of Part 2 (When Boats Meet) **when** she **interferes** with a boat that is racing (*RRS 22.1*), but **Class Rules**, **Sailing Instructions**, etc., **always apply**. When the Sailing Instructions state e.g. that boats not racing shall stay outside a pre-defined starting area, the Race Committee may protest a boat that is observed to be infringing this rule.

A boat **stops *racing*** either **when** she ***finishes*** and **clears** the finishing **line** and finishing **marks**, or **retires** or when the race is ***postponed*** or ***abandoned***, or a **General Recall** is signalled. Boats that are no longer *racing* may still be under the obligation to avoid interfering with boats that are racing, according to *RRS 22.1*.

15.2.2 Start

A boat starts when after her starting signal any part of her hull, crew or equipment first crosses the starting line and she has complied with rule 29.1 and rule 30.1 if it applies.

One of the major tasks of the Race Committee is to **observe** that all **boats start correctly**. It is the responsibility of the Race Officer to try to **identify** all **early starters**, i.e. boats on the course side of the starting line or boats within the triangle formed by the ends of the starting line and the first mark (*RRS 29.1*; *30.1; 30.2* or *30.3;* whichever applies).

If a boat fails to *start*, the Race Committee must score her (see *RRS A 3*)

- **DNC** (Did not come to the starting area),
- **DNS** (Did not *start*),
- **OCS** (On the Course Side of the starting line and failed to comply with rule *29.1* or rule *30.1*), or
- **DSQ** (Disqualified), if she has infringed the Black Flag Rule – regardless whether the definition of *start* has been met.

The Race Committee can do so without having to protest the boat (*RRS A5*).

15.2.3 Finish

A boat finishes when any part of her hull, or crew or equipment in normal position, crosses the finishing line in the direction of the course from the last mark either for the first time or, if she takes a penalty, after complying with rule 31.2 or rule 44.2.

Taking the **finishing order** is another major Race Committee task. It must **record every boat** crossing the finishing line. This may **even** mean that the same boat is recorded **twice**: if you record a boat crossing the finishing line at the far end, and you suddenly see her do a **360° turn** and cross the finishing line again, the second finish is probably the one that should count, as she is likely to have touched the finishing mark (see *RRS 31.2*).

However, there is no time to make sure, because the next boats are approaching. Remember that it can always be **resolved later**, for example when the competitor concerned signs the **360° declaration form** in the Race Office before the expiry of Protest Time.

Boats on the course side of the starting line, or boats that infringed the Black Flag Rule, or boats that have been observed to touch a mark should also **always be recorded** when they cross the finishing line. It may turn out later that they have exonerated themselves or been forced to make an error through another boat's fault, or some mistake may have been made in the identification. In all cases, it **must be possible** to **give** such a boat **her correct finishing position** back.

Boats failing to *finish* are scored **DNF** (Did not *finish*) without protest, by the Race Committee (see *RRS A 5).*

15.3 RRS Part 3 – Conduct of a Race

There are a few rules that give the Race Officer powerful tools to influence the quality of the race both positively and negatively.

15.3.1 Race Signals

RRS 25 refers to the **visual** and **sound signals** defined in the *Race Signals* at the beginning of the *Racing Rules of Sailing.* It contains the illustrations and descriptions of signals the Race Committee can make. **Further signals** may be added **by** the **Sailing Instructions**. These signals are, in principle, the **only way** the Race Committee should **communicate** with the competitors once they are **afloat**.

Some of the signals can **also** be made **ashore**, but they serve the same purpose: to **communicate** with the boats **in a clear** and **simple manner**. A Race Officer should have a clear understanding of the meaning of each of the signals, and know the **number of sound signals** that goes with each of them.

The principle of each signal is that it is an inseparable **combination of visual and sound** signals. This means that in principle a signal is not validly made if one of these components is missing.

Some Race Officers appear to be confused by *RRS 26.1:*

*"...**Times** shall be **taken from** the **visual signals**; the failure of a sound signal shall be disregarded..."* (emphasis ours)

It is not true that any signal made by the Race Committee is valid if it is made visually, regardless of whether the required sound signal comes with it or not. The part of ***RRS 26.1*** quoted above refers only to the **timing of** the **signals** that define the starting intervals, i.e., the Warning Signal, the Preparatory Signal, and the Starting Signal.

15.3.2 Sighting the starting line

In order to properly start a race and to ensure fair competition, the Race Committee has to make every **effort to identify** any **boats** that do not comply with *RRS 29.1*, or that are infringing a Starting Penalty (*RRS 30*).

Recommended Race Management Policies

To achieve this goal and ensure accurate information is available for redress hearings, the **Race Committee** should – at least at principal events – **adopt** the following **principles**:

- **Two persons** should sight the line **at each end** (four in all).
- At least one at each end should use a hand-held **tape recorder** and be recording **without stopping from** at least **one minute before** the starting signal until after anything of interest after the start. The 'start minus one minute' **signal** and the 'starting signal' should be **heard on** the **recording**. A commentary of anything of interest should be recorded, such as boats getting close to the line, bunching, etc.
- Each **tape** recording should be **labelled** and **not erased** until after the conclusion of the regatta.
- **One** of the persons **sighting** the line **should be** the **Race Officer**.
- The **Race Officer** should **make** the **decision** as to whether there should be no recall signal, an Individual Recall (flag X) or a General Recall (First Substitute).
- One of the **line-sighters** at the port end should **communicate** with the (Principal) Race Officer **by radio immediately** after the starting signal and give either just the number (quantity) of boats identified as OCS (or infringing the Black Flag Rule) or this information plus the number (quantity) of boats considered to be OCS (or infringing the Black Flag Rule).
- When an **Individual Recall** signal is to be made, it must include both **flag and sound** signal, and must be made **as soon as possible** after the Starting Signal, but **in no circumstances** should the signal be made **more than 5 seconds** after the Starting Signal.
- It is **undesirable** to signal an **Individual** Recall and **then** signal a **General** Recall.

Currently, **electronic systems** are being developed and tested that may assist the Race Committee to sight the line and, if possible, provide each competitor with information on his relative position to the starting line. However, these are future plans whose success will be highly dependent on proper funding.

15.3.3 Postponing a race

One of the most powerful measures that a Race Officer can take is to **postpone a race**. A race can be postponed at **any time before** its **Starting Signal** (*RRS 27.3*) ─ and that means virtually until the last second ─ by displaying **code flag AP** (answering pennant) with **two sound signals** (*RRS Race Signals*). Race Officers should not hesitate to postpone the start if they feel something will influence the fairness of the start of the race. The competitors in a serious regatta will recognize such action as an attempt to offer them the best possible race quality.

Recommended Race Management Policies

- In terms of Recommended Race Management Policies, Race Officers should use this tool to **communicate influences** on the starting procedure that are **not** the **fault of** the **competitors**, e.g. wind shifts, a drifting starting mark, other boats 'unavoidably' interfering with the competitors, major failure in the timing of signals, etc.
- Even if it is allowed to signal a General Recall due to an *error in the starting procedure* (*RRS 29.3*), the Race Officer should be alert to **detect** any such **influence** or error **before** the **starting signal** and then, even in the last second, signal a **Postponement rather than** a **General Recall.**
- This difference of a few seconds may force the **Signals Officer** to take immediate and unexpected action, but an experienced Signals Officer will at any time of the starting procedure be **prepared to signal** code flag **AP**. And last but not least, signalling a Postponement instead of a General Recall may have material **influence on** the competitors' **results**, when the **Z Flag Rule** or the **Black Flag Rule** has been in force (see *RRS 30.2* and *30.3*).

15.3.4 Individual Recall

At the **very moment** of the start the **decision** will have to be made **to recall boats** either individually or generally. *RRS 29.2* is very specific about the signalling of **Individual Recalls**: *"...at her starting signal...shall promptly display flag X..."*. This is fair because the sooner a boat is informed that she has been on the course side of the starting line, the better opportunity she has to exonerate herself.

Boats should **have** a **fair chance to return** across the extensions of the starting line. If the (starboard) end of the starting line consists of a staff or a mast on board a Committee vessel, sailing around the extension of the line could be a time-consuming activity if the Starting vessel is of considerable size. Race Officers should take this into consideration when applying *RRS 30.1* (**I Flag Rule**). If the starting vessel is large compared to the size of the boats, a **starting line** between **two marks** should be considered.

In order to ensure the best possible identification of boats, adhere to the Race Management **Policies** on sighting the starting line as outlined in paragraph **15.3.2**.

15.3.5 General Recall

General Recalls are to be **strongly discouraged** since they are **unfair to boats** that were **in** a **good** starting **position** and not over the line. Race Committees should train themselves not to use the General Recall as an excuse for bad line observation at the start. If a Race Officer is able to **set the standard at** the **very first start** of a regatta, he will find that the fleet will

respond to this positively and produce few premature starters. On the other hand, Race Officers who let the fleet mess up the first start will find themselves working long hours to produce proper starts throughout the rest of the regatta.

However, a General Recall **may be signalled** when there are ***several unidentified boats*** *on the course side of the starting line or there has been an* ***error in*** *the* ***starting procedure*** (*RRS 29.3*) (emphasis ours).

No guidance is given as to how soon after the Starting Signal a General Recall signal should be made. **Fifteen seconds** after the start is probably the **maximum delay**. After that boats may be too far away from the starting line to actually see and hear the signals, which might cause confusion.

A **fast boat** crossing ahead of the fleet **displaying** the **General Recall** flag will reduce the risk of any boats continuing on. The next attempt to start the fleet (whether under the **same conditions**, or under **stronger rules**, such as the P, I or Black Flag rule) should be made as soon as possible, preferably continuing on the same **five-minute** cycle. However, there is no time given in the *racing rules* as how long the First Substitute may kept displayed. Remember that the starting procedure will now be shorter, with the **Preparatory Signal** being given **one minute after** the First Substitute is lowered (*RRS 29.3*).

15.3.6 The Black Flag Rule

Race Officers should **think twice** before using this rule (*RRS 30.3*). If a start was messed up due to the line not being square to the wind, it is generally considered **unfair to punish** the competitors with a "sudden death rule". On the other hand, endless attempts to restart a race after a General Recall are considered undesirable as well.

Any **rule**, infringement of which will lead to the unconditional **disqualification** of a boat, should be **announced in due time** and allow boats a reasonable opportunity to position themselves "on the safe side" of the line. This is done by signalling a Black Flag **before or as** the **Preparatory** Signal. To indicate the beginning of the penalty period, the Black Flag is then **removed one minute before** the **starting** signal, accompanied by **one long sound** signal.

A **limited area** is defined in *RRS 30.3*, within which the severe penalty will apply. It is *"...the* ***triangle*** *formed by the ends of the starting line and first mark.."*

Boats disqualified will **not** be **entitled to compete** if the race is **restarted** (after a General Recall), **re-sailed** (after an Abandonment) or **rescheduled** (re-sailed on another day, etc.). However, if the race is **postponed** (i.e. before the Starting Signal) and there have been any boats identified within that triangle, they **still** are **entitled** to compete and their infringement will not be counted in the following new starting sequence.

In principle a start under the Black Flag Rule can result in (another) General Recall. The Race Committee should be quite sure it has **identified** the **vast majority** of the infringing boats in order to **let** the **start go on** (and not to signal a General Recall). Obviously **no Individual Recall** can be signalled under the Black Flag Rule.

Note: in order to **identify** boats, it is not compulsory to clearly see their sail numbers; it is in line with the *racing rules* to identify a boat **by other means** (crew, hull, equipment) than its sail number if it cannot be mistaken as belonging to another competitor.

To properly **sight** the **defined triangle**, the line-sighters at both ends have to check two bearings: the starting line and the line directing to the first mark. This obviously involves the **first mark** to be **already laid** when the Black Flag Rule comes in force. Otherwise, or if the mark cannot be seen by eyesight, the Officials at both ends of the starting line have to use the **compass bearings** of the actual or intended position of the first mark.

If the **majority** or at least the most responsible infringers **cannot** be **identified**, it will prove better to make a **General Recall** signal and **display** the **sail numbers** of the boats that were infringing on a board from the Race Committee boat (*RRS 30.3*). All boats listed have to leave and are not entitled to restart in this race. See also Section B, **Chapter 9.3.6**.

15.3.7 The Z Flag Rule

As outlined in Section B, **Chapter 9.3.6**, the Z Flag Rule (*RRS 30.2*) may be interpreted as a mild version of the Black Flag Rule. The sighting, the restrictions and the formal procedure (**code flag Z** instead of a black flag) being the same as with the Black Flag Rule, the **penalty** for boats identified within that triangle will be a **20% scoring penalty** (calculated as stated in *RRS 44.3 (c)*). The penalty, however, will **only** be given **if** a **General Recall** has been signaled.

Otherwise, if boats are identified within that triangle, but there is no reason to signal a General Recall, those boats shall receive an **Individual Recall** under *RRS 29.1*.

If, however, a boat is seen within that triangle well before her starting signal, e.g. 50 seconds before, and then completely sails to the pre-start side of the line (e.g. 30 seconds before) and no General Recall is given, this boat is neither OCS nor can a 20% scoring penalty be given. This may well sound **unsatisfactory** to Race Committees and to competitors complying with the rules, but experiences with this new Starting Penalty have to be made and further developments will surely be discussed.

15.3.8 Abandoning a race

There is another way to stop and resail a race after its starting signal: **abandonment**, followed by a **new start** shortly **thereafter** (**code flag N** with **three sound** signals.) If anything went wrong during the starting procedure or, as discussed above, a decision on a General Recall was not made soon enough, the use of N is recommended. If it is obvious that there will be no new start shortly thereafter – due to foul weather, insufficient wind or being already not far from sunset, **N over H** (further signals ashore) or **N over A** (no more racing today) may be signalled instead (see *RRS Race Signals*).

There has been considerable discussion as to the extent to which the Race Committee should apply *RRS 32* and abandon and re-sail races. In particular *RRS 32 (e)* allows for quite a bit of interpretation by the Race Officer.A race would not normally be abandoned due to a change in wind conditions after the leading boat has rounded the first mark. It should only be considered as an action of last resort in extreme conditions where there is no reasonable opportunity to finish the race. In these circumstances, it is important that every effort be

made to finish the race by using all available means such as shortening or altering the course, shortening or extending the length of a leg of the course or any combination thereof.

No specific guidelines can be given as to when to abandon and re-sail a race and when to continue. Any decision on this matter should be made considering the "pros and cons" for each competitor. The same is valid for a decision to **shorten** a race (*RRS 32*).

However, after one boat has sailed the course and finished within the time limit, if any, the Race Committee shall not abandon the race without considering the consequences for all boats in the race or series (RRS 32).

But, *if no boat finishes within the time limit, if any, the Race Committee shall abandon the race* (*RRS 35*).

Recommended Race Management Policies

However, we recommend a policy on abandonment at principal events as follows:

- **Change in wind direction**: It is usually appropriate to abandon only when there is a major wind shift, – i.e. a shift other than temporary, which would allow a boat to sail the windward leg on one tack, – during the first 50% of the **first beat** (before any boat can be identified as a leader). It should be considered if there is time for a restarted race.
- **Collapse of wind strength**: It is usually appropriate to abandon only when the situation is such that, were a new wind to arrive, the boats would be unlikely to achieve the leg or overall time limit. 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, a shortened course would be more appropriate.
- **Increase of wind strength / danger to life**: When there is a danger to life, the race should be abandoned immediately. The number of rescue boats available (not currently involved in rescue) should be considered. The decision should also be based on the previously agreed upper wind speed limits, agreed upon with the Class Association or the Organizing Authority.
- **Unusual occurrence making the race unfair**: It is usually appropriate to abandon only when the incident (e.g. a tanker motoring across the course splitting the fleet into two) occurs in the first 50% of the first beat (before any boat can be identified as a leader).

15.3.9 Changing the Course

Another important tool to influence the quality of a race is the Race Committee's ability to **change** the **course**, **if** there is a **wind shift** (*RRS 33*) or to **move or replace** a **mark** that has **gone adrift** or disappeared (*RRS 34*). The techniques of laying and moving marks are discussed in Section B, **Chapter 8.7**.

A few **guidelines** from a rule point of view may be helpful:

When a **mark** is **moved** to a different position **competitors** should **know where to find it**, by being able to actually see it, or by being informed at the beginning of the new leg where the new mark will be (by displaying a **compass bearing** to the new mark and **code flag C** (*RRS 33*). Changing the **length of** a **leg** is discussed in Section B, **Chapter 8.7.5**.

This offers the Race Committee the flexibility to make a decision to move a mark at a relatively late stage. The **new mark** need **not** be **in position** at the moment the **leading boat begins** the **new leg**. It is the Race Officer's judgement as to what is still an acceptable moment to drop a mark when boats are already on the leg. Fairness of the competition should always be the prime consideration.

When a **mark** is **missing** or out of position it should be **brought back** into position **or replaced**, either with a mark of **similar appearance** or with a buoy or vessel displaying **code flag M** (*RRS 34*). This should all be completed **before** the **leading boat reaches** the mark that caused the trouble.

Sometimes a mark going adrift will cause panic among the Race Committee. The Race Officer should have the various **options clearly in** his **mind** and make sure to **issue clear instructions** to any RC boats involved.

15.4 RRS Part 4 – Other Requirements When Racing

15.4.1 Personal buoyancy

Even if the races take place with fairly good weather, it is recommended to demand the competitors **wear personal buoyancy** as life-jackets. The Race Committee then has to display **code flag Y before or with** the **Warning Signal**, accompanied by one sound signal. This flag is kept displayed as long as the requirement shall be in effect. As racing rules of part 4 only apply to boats that are racing, competitors may take off their life-jackets after finishing.

15.4.2 Propulsion

*When so **stated** in the **Sailing Instructions**, the Protest Committee may **penalize without** a **hearing** a boat that has **broken rule 42*** (*RRS 67*), if the incident has been observed by a Committee member or a designated observer. The penalty given will appear in the race results.

Bear in mind this possibility but if you are going to include it in your Sailing Instructions experienced judges are required to act as **observers** on the water.

15.4.3 Competitor clothing and equipment

If there are measurement procedures to take place, compliance with **clothing** and **equipment requirements** as outlined in *RRS 43* should be observed. *RRS H* gives advice how to weigh competitors' clothing and equipment.

15.5 RRS Part 5 – Protests, Hearings, Misconduct and Appeals

15.5.1 Protest (*RRS 60, 61*)

Boats with a hull length of six metres or over wanting to protest have to **fly protest flags** (*RRS 61.1 (a)*). It is not an obligation of the Race Committee to **record** the **sail numbers** of boats flying protest flags during a race, but it is a good service to the Protest Committee.

If the Sailing Instructions prescribe that boats must notify the Race Committee at the finish, one person on board the **Finishing vessel** must be made **responsible for recording** and acknowledging **protests**, and for submitting the list to the Protest Committee. This is essential: one of the first things that the Protest Committee will do, will be to **check whether** a **protest** is **valid** or not. Protests have to be **lodged within** a certain time: the **protest time** (see *RRS 61.3*). The Race Committee is responsible for giving the Race Office the exact time of the beginning and the end of protest time.

Recommended Race Management Policy

- A competitor shall be protested by the Race Committee for a rule infringement, when the incident has been clearly observed by a member of the Race Committee, and this protest is made on behalf of the fleet competing.

15.5.2 Redress (*RRS 62*)

Requests for redress are **becoming** more and **more common**, because the competitors usually have "nothing to lose". Redress can be granted under several conditions, but only **when** a **boat's finishing position** has been made **significantly worse** through **no fault** of her own.

If an improper action or omission of the Race Committee made a boat's finishing position significantly worse, the Protest Committee can act in several ways. If the error can be corrected by **adjusting** the **scoring** or **finishing times** (*RRS 64.2 and RRS A 6(b)*), the Protest Committee should do so. If it cannot be corrected this way, the Protest Committee may **let** the **results stand** or, **abandon** the **race** or make some other arrangement. It should be **as fair as possible** to all boats affected (*RRS 64.2*).

15.6 RRS Part 6 – Entry and Qualification

In Part 6 the Race Officer should pay special attention to two rules, *RRS 77* and *RRS 78*. ***RRS 78*** deals with **measurement** and **rating certificates**, with *RRS 78.2* mentioning a statement to be signed if a competitor, for whatever reason, cannot produce his certificate before he races.

The Race Officer must be aware that such a **statement** cannot be made by competitors whose boat has not yet been measured. Boats entering a regatta must have a valid certificate (*RRS 78.1*) and the statement is only to be accepted from boats already holding a valid certificate. *RRS 78.2* requires the boat to **produce** the **certificate before** the **end of** the **event**. When such a boat cannot produce her certificate before the end of the event, the boat's **scores** shall **be removed** from the results, as if she had never entered.

RRS 77, and affiliated Appendix ***RRS G***, deals with **class insignia**, **national letters** and **sail numbers**. It is important that a boat can easily be identified by her numbers. When a **measurer** finds that a boat does not comply with her class rules, he shall **report to** the **Race Committee** which shall **protest** the boat (*RRS 78.3*). If there are measurers checking sails before the regatta, they should be instructed to not approve any sails that do not comply with *RRS 77*.

15.7 RRS Part 7 – Race Organization

15.7.1 General requirements

This part of the Racing Rules deals with general requirements relating to the organization of races. The main points which are responsibilities of the Race Committee are already outlined in Section A, **Chapter 1** and **2**.

When writing Sailing Instructions, *RRS 86* (**Rule Changes**) must be strictly adhered to. For the required contents of the **Notice of Race** (RRS 87.2) and the **Sailing Instructions** (RRS 88.2) see also *RRS M* and *RRS N* (Sailing Instructions Guide). **Appendices 5A** and **5B** of this Manual contain a Notice of Race Guide and a Sailing Instructions Guide, the latter taken from *RRS N*.

15.7.2 Scoring

Attention is also drawn to *RRS 88.3* referring to *RRS A* (Scoring). Especially when a series is not a regatta, there may be material **differences in scorings** for boats that came to the starting area and boats that did not (*RRS A 9*). However, for **safety reasons** and for **fairness purposes**, it is important for the Race Committee to **know** exactly **who did** and **who did not start**.

There is the possibility that boats **arriving late** for the start may **sneak into** the **fleet**. It is the responsibility of a good Race Committee to keep track of that. Boats suspected of attempting to race in this manner should be subjected to an **investigation** under Fundamental Rule 2 (**Fair Sailing**) and *RRS 69* (**Gross Misconduct**). A report from the Race Committee to the Protest Committee or the Jury is the right way to initiate such proceedings.

The **Race Committee** should make sure that its **paperwork** on the boats started, boats on the course side of the starting line, boats not finishing and finished boats is **in good order**. If records are a mess, it may take considerable time to get everything straightened out for the results computer, causing a delay in results being available to the competitors and the press. For more details on **scoring**, see *RRS A* and **Appendix 12A** of this Manual.

15.8 Safety and Legal Liability

Race Officers have a duty of care towards the competitors and the extent of their legal liability will be subject to the respective laws of each country involved and therefore will vary from country to country.

While safety requirements of each regatta will vary depending on the type of race, venue, conditions and many other factors it is the responsibility of the Organising Authority and the Race Officers to ensure that the races are conducted as safely as possible .

The inherent risk in sailing and unpredictability is one of the attractions and challenges of sailing. No Organising Authority or Race Officer can guarantee the safety of a competitor but they must take all reasonable precautions to minimise any potential risks. To do this, before each event a risk analyses or assessment of the event should be undertaken and a definitive emergency plan be prepared and communicated to all Race Officers and even to competitors so they know what to expect in an emergency

When dealing with children or novices your duty of care is greater as they are less able to appreciate the inherent risks associated with their activity or to protect themselves against it.

It is important that competitors attention is drawn to RRS Fundamental Rule 4 (Decision to race) and that it is included in the sailing instructions and possibly even in the notice of race. Consideration could also be given to including waivers, indemnities or disclaimers in the notice of race, sailing instructions and more particularly the entry form as it is usually signed by the competitor. The effectiveness of these will vary depending on the laws applicable in the country conducting the event. Appropriate insurance against this potential liability could also be a consideration if it is available.

Generally, officials will not be in breach of their duty of care unless they have been negligent, that is, failing to exercise a reasonable or ordinary amount of care in a situation that is likely to cause harm. The amount of care required is what a reasonable and prudent person having your skills and experience would use in any situation that could have reasonably been foreseen.

Section E

Race Management of Match Racing

16 RACE MANAGEMENT OF MATCH RACING

Abstract
This chapter is doubled from the ISAF Umpires and Match Racing Manual. It discusses the Race Management of match racing events. Recommendations are made regarding all aspects of on-the-water management. For comprehensive information on the conduct of match races, please consult the ISAF Umpires and Match Racing Manual.

Contents

16.1 Introduction

16.1.1 Notice of Race and Sailing Instructions

The Notice of Race should be **published** as far in advance as possible. Both the Notice of Race and the Sailing Instructions should be **reviewed** with the Chief Umpire in advance of publication.

A **standard Notice of Race** and **Sailing Instructions** for match racing are included in Parts K and L of the **ISAF Umpires and Match Racing Manual**. The standard **must be used** as the basis of the Notice of Race and the Sailing Instructions **for** a **graded event**. For all other events, ISAF recommends that event organisers follow the standard as much as possible.

16.1.2 Competition Format

Will borrowed boats be used? Will penalties be immediate or delayed? Will advancement be based upon a ladder system or one or more round-robins? How will entries be determined? Will there be a qualification round for unseeded competitors? How will the results be determined if there is insufficient time to complete the schedule? What will the damage deposit be? Each of these **options** should be **decided early on** and **mentioned** in the Notice of Race.

A discussion of the merits of various competition formats can be found in Part M of the **ISAF Umpires and Match Racing Manual**. Sample pairing lists and criteria for using them are shown in Part M of that Manual.

16.1.3 Relationship with Competitors and Umpires

The **Principal Race Officer** and the **Chief Umpire** must **work together** very closely. They should meet before and after racing each day to discuss and resolve such matters as course location, crowd control, the condition of boats, visibility of signals and anything else affecting the quality of racing.

Before the **competition**, the Chief Umpire (or the umpires) and the Principal Race Officer (or the race committee) should **meet** and cover the matters described in Part D4 of the ISAF Umpires and Match Racing Manual. The Principal Race Officer and the Chief Umpire should then conduct **competitors briefing** to cover the same subjects. The Principal Race Officer should defer to the Chief Umpire if any questions arise at this meeting regarding the Sailing Instructions or other conditions governing racing.

Daily meetings between competitors and umpires, both before and after racing, are becoming increasingly common and **should be encouraged**. The Principal Race Officer should conduct a morning pre-race briefing to discuss race committee procedures, announce the sailing area to be used and other related matters. The Chief Umpire will conduct an afternoon de-briefing, at which the umpires will review any calls the competitors wish to discuss. It is helpful for the Principal race Officer to attend this meeting and be prepared to respond to comments and questions regarding race committee procedures.

16.1.4 Borrowed Sailboats

The **greatest challenges** to the organiser of a match race event are associated with borrowed sailboats. The owners of those boats will be rightfully concerned about how their boats are used and their condition upon the conclusion of the event. The event organisers must impress upon competitors and umpires that the event could not be conducted without the generosity of the owners and that the **owners' boats** must be **protected.**

Several steps may be employed which will **ensure the owners'** continued **support** of the event. Before the event, the event organiser ought to **establish guidelines** for the use and care of the boats. A sample set of conditions is an attachment to the standard sailing instructions in Part L of the ISAF Umpires and Match Racing Manual. The owners should be permitted to comment on those guidelines and to add requirements that may be unique to the class of boats to be sailed. Just before the event, one member of the race committee should **survey each boat** with its owner, or a representative, present. All equipment should be inventoried and any damage noted.

From the very first competitor's meeting, umpires and the race committee must impress upon the competitors that **proper care** of the borrowed boats is **essential**. **Inspections** should be made at the conclusion of **each race day**. It is advisable to take photographs of any damage for later use in making an insurance claim or determining responsibility for the damage.

Advise the competitors that a withdrawal will be taken from their **damage deposit** if the boat is not secured properly. ISAF encourages event organisers to advise the **competitors** that they **may be excluded** from the remainder of the event, and not permitted to participate in future events conducted by the same organising authority if a team handles a boat improperly or causes damage which may have been prevented with proper seamanship.

Another important aspect of conducting a match-racing event is the **equalisation of borrowed boats**. An event organiser is well advised to arrange for one or more people to equalise the tuning of each boat and make sure all equipment is working properly. Issues to consider are:

* Condition of the bottom
* Location of the mast
* Headstay length
* Shroud tension
* Condition of sails
* Electronics
* Mast head flies
* Compasses
* Deck layout
* Weight of boat
* Excess gear removed

It is far more **important** to select boats that are **as equal as possible** than it is to select the fastest boats in a fleet. If the boats cannot be equalised, match pairs of boats that are as equal as possible and keep them together throughout the round-robin. This will increase the complexity of the boat rotations, but will provide for fairer competition.

During the event, the race committee should **keep track of** the **finishes** of each boat (in addition to team finishes). Before the semi-final series begins, the race committee will then be in a position to **select** the four **boats with** the **most equal records**.

16.2 Required Personnel

16.2.1 Umpires

The umpires must be prepared to respond to situations in every match, so an organiser must arrange for a sufficient number of umpires. At a minimum, that means **two umpires for each match** in progress. Therefore, if the field will consist of ten teams, with five matches in progress at a time, the event organiser will need to arrange for at least ten umpires. For most events, **pairing** one **experienced with** one **less experienced** umpire is acceptable.

As the level of competition and importance of events increase, so too do the requirements for the **number and skills of** the **umpires**. For regional events, it is highly desirable to have at least one **ISAF International Umpire** and to provide additional two umpires who will serve as wing umpires (see Part G of the ISAF Umpires and Match Racing Manual). For **graded events**, the minimum requirements for umpires have been established by ISAF. A **summary of** those **requirements** is set forth below:

GRADE EVENT	REQUIRED INTERNATIONAL UMPIRES	RECOMMENDED COMPLEMENT OF UMPIRES
1	1 per match	2 umpires and 2 wing umpires per flight
2	3 per event	2 umpires per match and 2 wing umpires per flight
3	2 per event	2 umpires per match
4 or 5	None	2 umpires per match

16.2.2 Race Committee

Race committee personnel should be **experienced and capable** of spending many hours on the water without degradation in their performance.

Signal boat duty is especially hectic and adequate staffing is very important. The minimum recommended **complement** is:

* Sound signaller
* Flags (at least two people)
* Line sighter
* Timer
* Recorder
* Principal Race Officer

Each **mark boat** should be staffed whenever possible with at least **two people**.

16.2.3 Other on the water personnel

If boats will be changed between flights, **provision** must be made **for crew changes**. Several boats, preferably soft-sided, should be assigned this duty, and nothing else. If possible, have several extra people aboard each change boat. They will board each sailboat and sail it under mainsail alone while the competitors are taken to their next boat.

The most frequent and frustrating cause for delay between flights is the **time lost** due to **breakdowns** if borrowed boats are used. No matter how much effort is expended in inspecting and repairing the boats ashore, breakdowns are inevitable. Event organisers are well advised to **assign** at least **one boat**, with sufficient, skilled personnel, the exclusive

task of repairing boats on the water. The **repair boat(s)** should be fast and easily manoeuvrable and, if possible, soft-sided. Spares of any items likely to break (such as spinnaker poles, sails, tillers and tiller extensions, sheets, winches and shackles) should be put aboard as well as tools and sail repair tape.

Depending upon the nature of the event, an organiser may also need to arrange for personnel to staff crowd control, VIP, spectator, press, television and photo boats.

16.3 Course

16.3.1 Location

Match racing has a great deal of **spectator appeal**. For that reason, it is becoming increasingly common for match races to be conducted in **locations** that would be **unsuitable for fleet racing**. Competitors, particularly those at the highest level, understand and accept the fact that racing is likely to be conducted in locations in which **conditions** may not be the same across the racing area.

An organiser may well want to conduct a match racing event in a harbour, near shore or in some other location conducive to spectating. If so, the organiser should take care to **advise** the competitors and umpires **of local conditions** such as shoals and shipping channels. On the other hand, it is best to **avoid** conducting racing in areas in which a great deal or **recreational** or **commercial boat traffic** is expected.

16.3.2 Configuration

The **preferred** match racing course is **windward-leeward**, with a **downwind finish**. **Roundings** are usually **to starboard** because this presents the most tactical challenges and opportunities for lead changes.

Options are one or more laps. Whenever possible, **two laps** should be used. This will provide the competitors with the most tactical challenges and opportunities for lead changes. **One-lap courses** may be appropriate when the time needed to complete a round robin is severely constrained or when unfavourable weather conditions are expected. **Three lap courses** may be appropriate if the sailing area is limited in size.

Given the short **course length** (see below) and the desire to provide opportunities for lead changes, it is critical to set the course properly. This means providing downwind legs that are as square as possible to the wind in which the boats are sailing. For a discussion on the effect of current, see **section 3.3**.

The **leeward mark** should be approximately 50 meters to windward of the starting line. If possible, the **starting buoy** should be of a different shape and/or colour than the leeward mark.

A **course diagram** is shown in the standard sailing instructions in Part L of the ISAF Umpires and Match Racing Manual.

16.3.3 Current

Race committees must be alert to the fact that the **wind observed** from an anchored signal boat will not be the same as that observed from a boat drifting or sailing in current. In areas in which current is a factor, race committees should rely upon **wind readings from drifting** race committee **boats** (see diagram below).

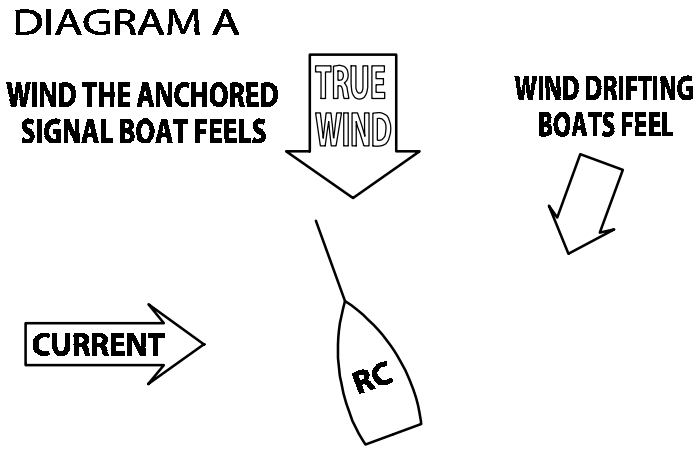


Diagram A

If the **current** is **at an angle to the true wind** (see diagram below), the wind the boats will feel as they **sail upwind** will be down current. That is, if the current is running from left to right looking upwind, the wind direction that a boat will feel will be to the right. As the boats **sail down wind**, the wind that they feel is up current (to the left looking upwind in this example). A course correction to provide a good beat (moving the mark down current) creates a poor downwind leg. In fleet racing, a race committee might respond by setting a windward mark to the right with the expectation of signalling a course change from the windward mark. In match racing, however, **downwind course changes** should be **avoided**.

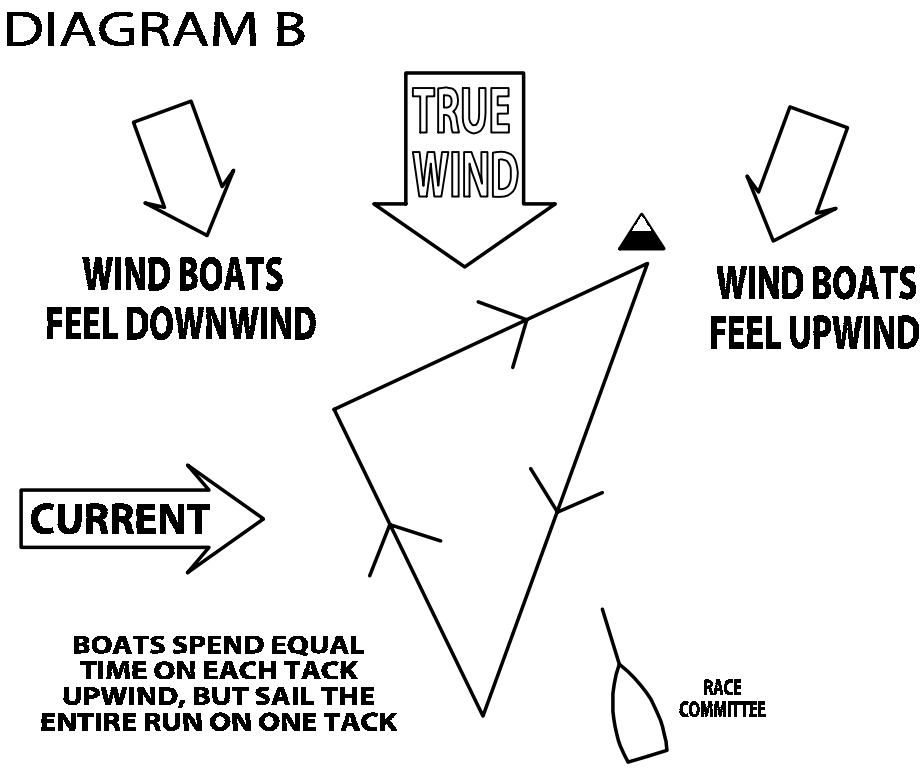


Diagram B

If the **current effect** is **minimal**, the race committee should consider sacrificing the windward leg slightly in order to provide a square downwind leg. In this case, the **windward mark** may be **placed slightly up current**. The result will be that the boats will sail upwind on one tack for a longer time than the other tack. As races progress, the race committee should time the boats on each tack as they proceed downwind. Ideally, they will sail an **equal time on each tack**. If not, the **windward mark** can **be adjusted** between flights or a **course change** may be undertaken (see below). If the boats sail downwind longer on starboard tack, the windward mark should be moved to the left looking upwind, and to the right looking upwind if they sail longer downwind on port tack.

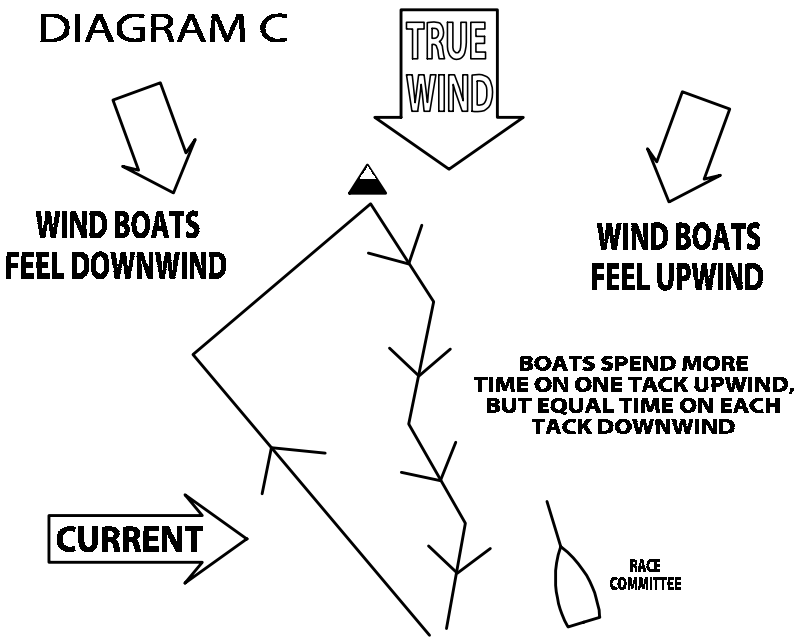


Diagram C

If the **effect of current** is **significant** (i.e., a strong current running almost perpendicular to a light to moderate wind), the use of **two windward marks** should be considered. The **standard sailing instructions** in Part L of the ISAF Umpires and Match Racing Manual includes a section to be included in the sailing instructions. If the **current** is running **from left to right** looking upwind, the boats should be instructed to pass mark WS first and then WP. In a **right to left** running **current** looking upwind, the boats should first pass WP and then WS. Marks WS and WP should be set up to provide square upwind and downwind legs. The **compass bearing** to these two marks from the leeward mark **may vary** by more than 40 degrees depending upon the speed of the wind and current, the difference in the bearing between the wind and the current and the length of the windward leg. (Note that in each case, the **leeward mark** should **still be passed to starboard**).

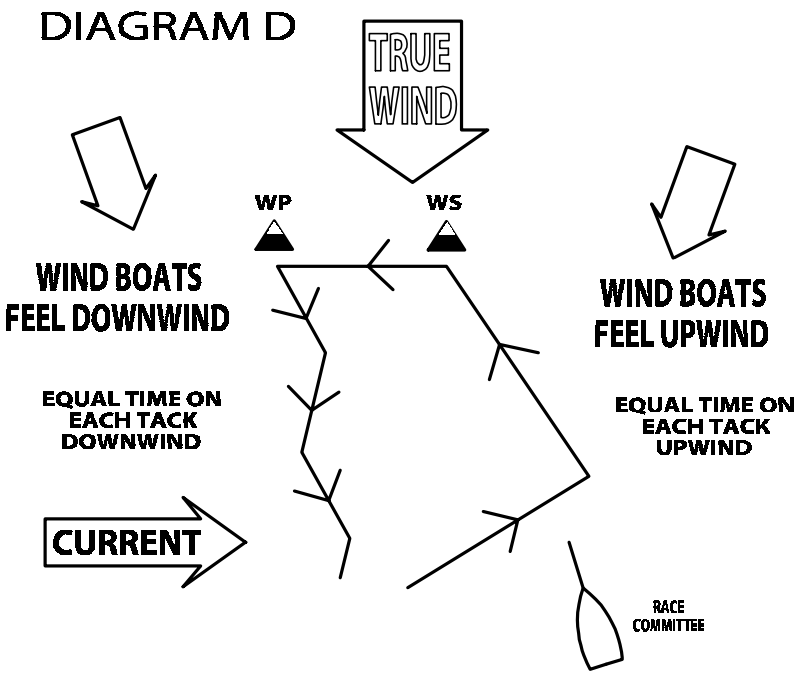


Diagram D

16.3.4 Length

The **attraction** of match racing, for spectators and competitors alike, is **many short, tactical races**. Thus, races should be of a short duration. A windward leg of approximately 6 minutes and an overall race duration of **20 to 25 minutes** are preferred.

16.3.5 Shortening Course

In general, there is **no time limit** for completing a race. Courses should be shortened only in extraordinary circumstances, and then only after consulting with the umpires.

16.3.6 Abandoning a Race in Progress

A good race committee running a **fleet race** would **not hesitate to abandon** a race if it determined that an error, such as in the timing or display of signal has occurred.

That **principle** does **not** necessarily **apply in match racing**. Race committees must be alert to the fact that abandoning a race, even before the starting signal can undo a significant advantage gained by one of the boats. If the race committee thinks it has **made an error** which may affect the outcome of a match, the race is best abandoned quickly in order that it can be re-sailed without delay. It is preferable to **consult with** the **umpires** before abandoning. If the **wind shifts** such that the boat do not have to tack on the first leg then the race should be abandoned. The standard sailing instructions permit this. **After** rounding the **first mark** the race should only be abandoned in extra-ordinary circumstances as by then the leader would be prejudiced.

In very **unusual circumstances**, the umpires may recommend that a match should be abandoned. Although the decision to do so rests with the Principal Race Officer, he/she should give strong consideration to such a recommendation. See also the Call Book.

16.4 Starting Lines

16.4.1 Length

As discussed below, boats have a **limited time** within which **to enter the starting area** and manoeuvre for position and control. The longer the starting line, the more of that limited time is lost as the boats sail towards each other. For that reason, it is suggested that the starting line be **approximately 30 seconds in length**. As an example, if a boat reaches along the starting line at 5 knots, it will travel approximately 2.5 meters in 1 second. In these conditions, the appropriate length starting line would be approximately 75 meters.

Once the signal boat is on station, spend a few minutes observing the speed of the boats as they reach in the existing conditions. The race officer may find it helpful to ask a competitor to pass the stern of the signal boat and reach along on starboard tack while the race officer observes. Using that data as a guide **set the starting line**. As boats reach along the line to judge its angle and length, time their progress. This will afford the race committee the opportunity to confirm that the length is appropriate and make corrections as needed.

16.4.2 Angle

The angle of the starting line is just as important as its length. In **fleet racing**, it is preferred to establish a starting line that is **square to the wind direction**. The same principle applies in match racing, but not to the same degree. During the pre-start manoeuvring, the race committee should observe how the boats handle the first cross after entry. If the boat entering from the port end can consistently cross the boat entering from the starboard end, there is a problem with the starting line.

Usually, the **problem** is the **result** of one or more of the following:

* The starboard end of the line is upwind of the port end.
* The effect of current has not been properly taken into consideration.
* The signal boat anchor line is obstructing the boat entering from the starboard end.
* The line flag is too far aft on the signal boat.

The race committee should **adjust the starting line** in this case by a combination of (1) moving the port end starting buoy to windward, (2) placing a sentinel on the anchor line or (3) moving the line flag toward the bow of the signal boat.

16.5 Starting Procedures

16.5.1 Starting System

The starting system is set out in *RRS C3*. During a flight, each pair of boats (a match) will start **at five minutes intervals**, with the starting signal for one match serving as the warning signal for the next match.

A sample log for starting a flight of five matches is shown at the end of this part.

16.5.2 Flags

The race committee will be called upon to display **many flags** throughout the starting sequence. Extraneous flags, or flags too close to each other can **be confusing to competitors**. Avoid displaying any flags, which are not necessary to starting the race (such as a national ensign, club burgee, race committee flag, and private signal and sponsor flags). Care should also be taken that owner's each flag when displayed is separated both horizontally and vertically from other flags being displayed. Finally, the race committee should attempt to **display** each flag **from** the **same location** throughout the event.

16.5.3 Sound Signals

In many parts of the world, race committees use a gun or cannon to start races. Given the short starting line and the expense of ammunition, **horns are acceptable** except in extremely windy conditions. Whistles should be avoided. The umpires will be using whistles and a whistle from the signal boat may confuse the competitors.

16.5.4 Improper Entry

The **Umpires** and **Wing Umpires** will **determine** whether a boat was at her assigned end of the starting line at the preparatory signal. The **race committee** should **not make any sound** or **visual signal** if a boat has not complied with this requirement.

From the **preparatory signal**, each boat has **two minutes** within which to cross and clear the starting line for the first time from the course side. Once she has done so, she may sail anywhere she desires. If both boats have done so, no sound or visual signals should be made. If a boat has not done so, the race committee should make one sound signal and display the identification flag of the boat, which has **not entered properly**. The flag should be removed after one minute or when the umpires have signalled a penalty for it, whichever comes first.

16.5.5 Premature Starters

It is the **responsibility of** the **race committee** to **notify** the competitors and umpires when the hull, equipment or crew of a boat is **on the course side** of the starting line or its extensions at the starting signal. This is accomplished by one short sound signal and the display of coloured flags (yellow or blue) that correspond to the colour of the identification flag(s) of the boat(s) on the course side. The flag should be removed two minutes later or the moment the boat returns completely to the pre-start side of the starting line or its extensions, whichever comes first. It is essential that the race committee have a procedure that will enable the **display** of **recall flags within 1 or 2 seconds** of the starting signal. There are more claims for redress as a result of late recall signals than for any other reason in match racing.

16.5.6 Postponement

A race committee should **postpone** a starting sequence in progress only for a **significant error** or a **substantial change** in the weather conditions. A race committee must realise that a postponement will negate any advantage one boat has gained, such as causing the

other boat to owe a penalty. The **rule of thumb** should be **"if in doubt, don' t postpone".** In the event a starting sequence is postponed, the next signal will be a new attention signal, made one minute after AP is removed (with one sound signal).

SAMPLE STARTING SEQUENCE
FIVE MATCHES PER FLIGHT

TIME IN MINUTES	VISUAL SIGNAL	SOUND SIGNAL	MEANS
30	Flag F	Gun	Attention
26	F lowered	None	
25	Numeral pennant 1 for first Match	Horn	Warning
24	Flag P	Horn	Preparatory (Begin entry time)
22	ID flag of boat that has not complied with C4.2	Horn (only if a boat has not complied with C4.2)	End of entry time
20	Lower pennant 1 and Flag P - hoist pennant 2	Horn	Start Match 1 - Warning Match 2
19	Flag P	Horn	Preparatory (Begin entry time)
17	ID flag of boat that has not complied with C4.2	Horn (only if a boat has not complied with C4.2)	End of entry time
15	Lower pennant 2 and Flag P - hoist pennant 3	Horn	Start Match 2 - Warning Match 3
14	Flag P	Horn	Preparatory (Begin entry time)
12	ID flag of boat that has not complied with C4.2	Horn (only if a boat has not complied with C4.2)	End of entry time
10	Lower pennant 3 and Flag P - hoist pennant 4	Horn	Start Match 3 - Warning Match 4
9	Flag P	Horn	Preparatory (Begin entry time)
7	ID flag of boat that has not complied with C4.2	Horn (only if a boat has not complied with C4.2)	End of entry time
5	Lower pennant 4 and Flag P - hoist pennant 5	Horn	Start Match 4 - Warning Match 5
4	Flag P	Horn	Preparatory (Begin entry time)
2	ID flag of boat that has not complied with C4.2	Horn (only if a boat has not complied with C4.2)	End of entry time
0	Lower pennant 5 and Flag P	Horn	Start Match 5

Sample Starting Sequence

16.6 Course Changes

16.6.1 When and Where to Change Course

A race committee must always be alert to how the course configuration is affecting the competitors. Ideally, both the **windward and downwind legs** will be **square**. This provides the most opportunities for lead changes. If the boats spend substantially more time on one tack than the other, especially downwind, the **course** should probably be **adjusted**.

ISAF does **not recommend** that **downwind legs** be **changed** in match racing. Experience shows that the probability of encountering a prejudicial error is high, particularly since the signal boat and finishing buoy must also be changed. On the other hand, upwind course changes are relatively simple and should be considered if the course needs adjustment rather than waiting until all boats racing have finished.

16.6.2 Signalling Procedure

Upwind course changes may be signalled **at two locations**.

For **boats already racing**, the race committee may signal a course change at the **leeward mark**. Since signals may also be made by the signal boat (see below), it is very important for the race committee to station a boat as close as possible to the leeward mark. A race committee should never expect that it would be able to signal a course change for one pair and remove the signal before the next pair arrives. For that reason, the race committee should use flags to designate the pairs to which the signal applies.

For **boats not yet started**, the race committee signal boat may signal a change in the **windward mark** by displaying **flag "C"** with the preparatory signal for the pair to which the change applies and making several repetitive sound signals.

The **new mark** should be of a shape and/or colour that are easily distinguishable from the original mark. Should it be desirable to place the original mark in the same location as the new mark, the two marks may be tied together with a short lanyard and secured to the bottom with one set of ground tackle.

The Standard Sailing Instructions in Part L of the ISAF Umpires and Match Racing Manual include **detail on** the **procedures** outlined above.

16.6.3 Mark Boat Procedures

Wind readings expressed by compass bearing are of limited value to the Principal Race Officer, who will be very busy while a match is in progress. It is recommended that the **windward mark boat** station itself, drifting, directly upwind of the leeward mark, at the desired distance, whenever possible. The Principal Race Officer can then **visualise** quickly **(1) the direction of the wind** and **(2) the potential need to effect a course change**. Moreover, the mark boat will be in the right location to deploy a new mark upon command. This procedure also eliminates the need to use the radio for reporting wind readings.

16.7 Finishing

16.7.1 Finishing Line

The finishing line will be the **same as the starting line**. The signal boat and the starting/finishing buoy should be left in place. The race committee should **resist** any **temptation to square** the finishing line. With short races, there is seldom time to make such an adjustment. In fact, it is not unusual for boats to be finishing while others are starting.

16.7.2 Penalties

As a match approaches the finishing line, the **umpires** will **advise** the **signal boat** if one or both boats must take a penalty before finishing. A boat required to take a penalty must lower the head of its spinnaker below the gooseneck, tack and then fall off to a down wind course (more than 90 degrees beyond the wind direction) before finishing.

One of the more common **ways** for a boat to **take a penalty** is for her to cross the finishing line at the pin, tack around the buoy, fall off to a downwind course and then re-cross the finishing line. Another common method of taking a penalty is for a boat to drop her spinnaker close to or on the finishing line, tack and then fall off onto a downwind course on the other tack and cross the finishing line.

It is important that the **umpires use a sound signal** at the instant they decide the **boat** has **completed her penalty**. It is then a simple matter for the race committee to determine if the boat sails wholly on the course side of the line after the sound signal. It is up to the **race committee** to **determine** whether or not a boat has been completely on the course side of the finishing line after completing the penalty and before finishing. If she has not done so, she has not finished. In all other respects, the **umpires** will **determine** whether or not a boat has taken the penalty properly.

16.7.3 Signals

The **blue flag** or **shape** signifying that the committee boat is on station should **not be used** in match racing (see *RRS C3.3*). Unless the committee is in the process of starting later matches in the same flight, the only flag which should be visible as a boat approaches the finishing line is the **line flag**. The **race committee** should **advise** the competitors and umpires **which boat** has **finished first** (after taking a penalty if required) by displaying her blue or yellow identification flag for a few seconds. The race committee should **not make** any **sound signal** as this may be confused with a signal from the umpires or starting signals for matches not yet started.

16.8 Scoring

The scoring system used in match racing is found in *RRS C10* and *C11*. It is advisable to **consult with** the **Chief Umpire** before posting final results or announcing which teams will advance to the next round. For **graded events**, the Chief Umpire is required to **sign** the **results** before they are submitted to ISAF for inclusion in the ranking lists. A sample score sheet is shown below.

TEAMS	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Score**	**Ranking**
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Sample Score Sheet: Round-Robin, Ten Teams

16.9 Race Committee and Umpires Equipment

Appendix 16A includes lists of equipment necessary for the umpires and race committee. It should be determined well in advance of the event who will be responsible for ensuring the availability of the equipment.

Section F

Appendices

Appendix 2A - Race Office activities

Before the regatta

a) Receive all pre-registration documentation

b) Prepare documentation to be handed out to all parties (see Appendix 2B)

c) Set up a Notice Board with an Official section for:

- Race Committee;
- Protest Committee;
- Measurement Committee.

Also provide a separate section for:

- meteorological information;
- social programme;
- miscellaneous communications.

During the days reserved for measurement and inspection

d) Establish the final registration sheets. Participants must confirm and pay entry fees

e) Establish the final participation list

f) Attach the following documents to the Official Notice Board:

- Notice of Race and Sailing Instructions;
- nautical chart showing course and distance to the centre of the race area(s);
- amendments to the Sailing Instructions, if any;
- composition of Race Committee, Protest Committee, Measurement Committee;
- list of competitors;
- Measurement Instructions;
- Measurement schedule.

On competition days

g) Open the Race Office at least 3.5 hours before the first starting time scheduled

h) Post the meteorological information

i) Post any Notices, Amendments, etc. on the official section of the Notice Board

j) Prepare documentation per race for the Race Committee and Protest Committee

k) Monitor the use of the sign-out sheets

l) Post the mark roundings, if available

m) Post the "provisional" finishing order and results

After the day's races*

o) Post list of premature starters per race per class

p) Post the end of Protest Time for each class

q) Have available:

- retirement forms;
- 360 + 720 declaration forms;
- protest forms;
- change-of-material request forms.

r) Monitor the use of sign-in sheets

s) Receive protest forms, retirement forms, 360 + 720 declaration forms, change-of-material request forms, noting the exact time they were handed in by each competitor

t) Post protest hearing schedule

u) Prepare copies of protests for the Protest Committee and protestees

v) Page parties to the protests when required

w) Post protest decisions

x) Replace "provisional" results with "confirmed" ones on the Notice Board

y) Finalize the file of each race with copies for the Race and Protest Committees

z) When closing the Race Office, leave a note saying at what time it will open again

* Some of the tasks related to protests may be taken up exclusively by the Protest Committee secretary.

Appendix 2B - Race Office equipment

1. Preferably a full set of flags, but at least the following:

   - Code flags "A", "H", "L", "N", "Y", "AP"
   - Numeral pennants 1-6

2. Sound signal device (horn)

3. The following list of materials will be of help when setting up the Race Office. When Reception and Information is separated from Entries and Registration or any other section of the Race Office, more than one of each item from this list must be acquired.

- counters with chairs;
- typewriters;
- file cabinets;
- staplers;
- clips;
- hole punchers;
- pencils, highlight markers;
- erasers;
- ruler;
- scissors;
- paper;
- glue;
- note pads;
- self-stick labels;
- binders;
- safe;
- information board;
- pigeon holes (alphabetized for mail and messages);
- organization's stamp;
- telephones;
- fax;
- telephone log;
- clock;
- dictionary.

Appendix 2C - Regatta Documents

This listing can only be generic, but it is emphasized that careful design and preparation of all the necessary documentation is usually worth the time and effort in the end. Since they are the physical support to virtually all regatta activities, well prepared publications and forms can immensely facilitate everyone's task.

If there are separate teams for Reception & Information and for Entry & Registration, they should divide all tasks, including the preparation of documents, well before the start of the regatta.

Race Office

- registration forms for competitors;
- registration forms for coaches;
- list of competitors;
- Notice of Race;
- Sailing Instructions;
- Measurement Instructions;
- measurement schedules;
- weather forecast sheets for the Notice Board;
- sign-out/sign-in sheets;
- listings of premature starters per class per day;
- end-of-Protest time announcements to put on the Notice Board;
- protest forms;
- 360 declaration forms;
- 720 declaration forms;
- retirement forms;
- change-of-material request forms;
- protest hearing schedules for the Notice Board;
- listings of protest decisions for the Notice Board;
- notices/amendment sheets for the Notice Board;
- list of Race Committee personnel;
- receipt booklet;
- message pad to log phone calls and other messages;
- cash book.

Competitors

- Notice of Race;
- Sailing Instructions;
- Measurement Instructions;
- list of competitors;
- nautical chart showing the course;
- map of facilities;
- tickets to social events.

Race Committee

- list of competitors;
- Notice of Race;
- Sailing Instructions;
- mark rounding sheets;
- finishing order sheets;
- Class Rules.

Protest Committee

- Notice of Race;
- Sailing Instructions;
- Class Rules;
- Measurement Instructions;
- list of competitors;
+ access to all Race Office documents (360 -declarations, etc.)

Measuring Committee

- Notice of Race;
- Sailing Instructions;
- Class Rules;
- measurement sheets to record data on hulls, equipment, sails, etc.;
- Measurement Instructions;
- measurement schedule;
- list of competitors;
- report to the Race Committee.

Appendix 2D - Reception and Information team tasks

Before the regatta

a) Obtain the following information:

- local services: Post Office, police, etc.;
- list of hotels, bed & breakfast, motels, campgrounds (including rates), restaurants, bars, discos, etc.;
- list of personnel and competitors with lodging information (where to reach them);
- list of consulates or embassies of the competing nations;
- travel agencies, car rentals;
- customs agents;
- local map with points of interest;
- transportation information: airports, railroads, buses;
- phone books, church schedules, where to buy foreign newspapers, etc.

b) In addition to the Regatta Documents listed in Appendix 2C, and in cooperation with Entries and Registration, prepare documentation selecting from the following lists:

For competitors

- documentation folders;
- postcards of regatta posters;
- local map;
- social programme + tickets to social functions;
- regatta poster;
- tickets for various functions;
- regatta shirts;
- promotional material.

For coaches and team leaders

In addition to the competitors' documentation:
- schedule of meetings;
- instruction for the use of facilities;
- map of the race area;
- list of competitors.

For guests/media

- documentation folder;
- regatta schedule;
- stationery;
- social programme + tickets to social functions;
- local map;
- list of competitors;
- descriptions of the Classes competing;
- shirts;
- promotional materials;
- poster of the regatta;
- credentials.

For the Race Committee, Protest Committee and Measurement Committee

- documentation folder;
- social programme + tickets to social functions;
- credentials;
- official shirt;
- regatta poster;
- organization chart ("who is who on the Race Committee, Protest Committee, Measurement Committee, etc.);
- communications chart (distribution of radio equipment, etc.);
- any general instructions.

<u>During the registration and racing days</u>

a) Welcome the teams, the press, guests, officials, etc.

b) Issue the information packages described above

c) Monitor use of the Public Address system (for international competitions, always make all announcements in English, too)

d) Monitor sale of shirts and other promotional material

e) Monitor telephone calls

Appendix 2E - Results and information team tasks and equipment needed

Before the first race of the regatta

Record all possible data such as: entry forms, collection of entry fees, competitors' contact location and telephone, etc., so that at the end of the registration period the following documents can be compiled, if required:

- list of competitors (by country, by sail number or by name);
- listing of requirements not yet complied with by any competitor (entry fee, measurement certificate, etc.);
- individual dossier cards (nationality letter, sail number, bow number, competitor's first and last names, birth date, height, weight, blood type, past results, etc.);
- data for making competitors' ID cards.

After measurement

The following data should be available:

- listing of any yachts that have not yet complied with all measurement requirements;
- data on materials measured (hull manufacturer, sailmaker, sparmakers, etc.);
- technical data (balancing test, corrector weights, etc.);
- graphs of the materials used, graphs (bar-type) of technical data on measurements, age, professional background, etc.

After each race

Produce all the documents connected with race results:

- preliminary finishing order of each race and overall results so far;
- order of mark roundings and graphs of the development of the positions at each rounding;
- final results of each race after Protest Committee decisions and overall results so far (including daily re-calculation of RDG's);
- listing of Race Committee data: class, race, number of competitors, starters, finishers, course length, starting time, time limits, compass bearing(s) to the windward mark, wind velocity, atmospheric pressure, wave height, visibility, air temperature, etc.).

After the last race

The final report should include all the collected regatta statistics for officials, competitors and support personnel:

- results of each race;
- mark roundings;
- overall final results;
- report on materials (hulls, sails, masts, etc.);

- measured data of interest and related graphs (balancing tests, turning radius, centre of gravity, etc.);
- report on the races, winds, currents, waves, etc.

Equipment needed

- computer, keyboard, screen and printer for each race area;
- carefully tested computer programs;
- radio communications for each area;
- paper supplies;
- tables and chairs;
- blackboard or bulletin board;
- office supplies as requested.

Appendix 2F - Printing and photocopy support

Before the start of the regatta

a) set-up the photocopy room;
b) prepare folders with dividers per Class;
c) prepare work sheets and a work folder;
d) distribute and label any mail boxes;
e) when available from Results and Information, photocopy the list of competitors, materials used, etc., on coded colour paper.

After each race

a) receive original documents from Results and Information team;
b) photocopy on coded colour paper, e.g.:

Mark roundings	Green
Finishing order	Yellow
Preliminary results	Blue
Final results of each race	Pink
Overall regatta results	White

c) distribute photocopies to: competitors, Regatta Chairman, Race Committee, Protest Committee, media, team leaders, guests and general public, etc.

After the last race

Assemble and distribute the final Regatta report from Results and Information as well as press releases and any other relevant documents.

Materials needed

- copy machines for less than 10 copies, 30-50 copies, and 1500 copies/hour (programmable);
- paper supplies, scissors, paper cutter, manual and electronic stapler;
- working tables + sorting shelf;
- bulletin board (e.g. large blackboard + chalk);
- mail boxes.

Appendix 2G - Meteorological data

The first listing of data indicates what should be available to National Authorities or Class Associations in advance, preferably included in the Notice of Race. The second one refers to data that should be available daily from the start of the regatta onwards.

Data that should be available in advance

1. introductory description;
2. climatologic data:

- daily temperature, maximum, minimum and median	- rainy season
- rain	- visibility
- humidity	- atmospheric pressure
- sun information	- solar radiation

3. temperature;
4. fog and visibility;
5. local winds;
6. marine data:

- graph of wind data	- currents (intensity and direction);
- local map, chart	- tides, tables and coefficients
- development of trade winds	- frequency, distribution of wind direction
- water temperature	- frequency, distribution of waves
- wave height	

Data that should be available during the regatta (Up to date information could be available on a local weather web site)

- ambient temperature;
- relative and ambient humidity;
- visibility;
- water temperature;
- sea conditions;
- wind, direction and intensity;
- isobaric map of national magnitude at sea level and at 500 meters altitude;
- daily forecast.

Appendix 2H - Race Committee vessels and equipment for major events

Boats required

- starting vessel;
- course-setting vessel capable of 15 mph;
- rescue boats (preferably one Patrol boat for every 10 starters, but at least 3 per race area).

Depending on Sailing Instructions:

- Lineboat;
- Signal boat;
- Mark boats.

All boats require fuel, anchors and warps, fenders, life jackets for all on board, first-aid kits including survival blankets, appropriate tools, shackle keys (one attached to float), heaving lines, bailers, boat hook, fire extinguisher, tow lines, two-way radios, food and soft drinks.

Marks

- 4-6 marker buoys, depending on type of course sailed;
- starting and finishing marks, if required;
- alternative marks for course changes.

Equipment required on official boats

Starting vessel

Flags:

- Preferably a full set of flags but at least:

  - all the flags listed in *RRS Race Signals*;
  - orange flag or other defined signal ("on station" at the start);
  - Class flags (Warning Signal);
  - white flag with "RC" Race Committee identification flag.

Papers + administration:

- copy of *The Racing Rules of Sailing* + ISAF Race Management Manual;
- local Harbour Authority regulations if any;
- table of compass bearings + distances for course changes;
- list of competitors;
- Notice of Race + Sailing Instructions;
- record sheets (start information);
- mark rounding sheets;
- finishing order sheets;
- clipboard, paper, pens, pencils.

Other:

- chart of race area;
- hoists;
- whiteboard with course sign;
- whiteboard for indicating compass bearing to Mark 1;
- blackboard + chalk (or any other system suitable to both resist water and from which the writing can be removed later) for displaying sail numbers of boats having infringed the Black Flag Rule;
- binoculars;
- tape recorder;
- timing device;
- guns + ammunition;
  compass;
- GPS
- wind direction vane;
- anemometer;
- sound signal device (horn);
- log.

Course-setting vessel

Flags:

- RC flag;
- code flag "C" (on a board or as flag) + board with a '+' and board with a '–' for change of the length of a leg;
- code flag "M" (anchor when displaying this signal);
- code flag "N";
- code flag "L";
- code flag "S";
- code flag "AP";
- code flag "A";
- code flag "H";
- blue flag for finishing if required to substitute for other RC boat;
- specified staff and flag for finishing line.

Other:

- marks;

- tow lines;
- spare anchors and warps for anchoring boats in distress;
- blackboard + chalk (or any other system suitable to both resist water and from which the writing can be removed later) for displaying sail numbers of boats having infringed the Black Flag Rule and/or compass bearings in case of course changes;
- hand-bearing compass;- GPS
- wind direction vane;
- anemometer;
- chart of race area;
- sound signal device (preferably a horn);
- log;
- record sheets;
- clipboard, paper, pens, pencils.

Patrol boats ─ see **Appendix 2I**

Lineboat + Signal boat - see under **Starting vessel** (this Appendix).

Either the Lineboat or the Signal boat should ideally be able to repeat all Starting vessel signals.

If the Lineboat is needed to indicate course changes after the start, it should have:

- code flag "C" (on a board or as flag) + board with a '+' and board with a '–' for change of the length of a leg;
- class identification flag, if changes might apply not to all classes on the course;
- whiteboard and waterproof markers to display the new compass bearing;

  (or a whiteboard with 3 times 7 reversable flat bits of wood (each on one side black, on the other side white), attached to the whiteboard with strong rubber bands in order to display the numbers in a digital fashion like on calculators and watches. You simply turn over the relevant bits of wood to their black side in order to display the number you want).

Mark boats

- large easily identifiable shape + suitable rigging for hoisting it;
- code flag "C" (on a board or as flag) + board with a '+' and board with a '–' for change of the length of a leg;
- code flag "M";
- list of competitors;
- record sheets;
- clipboard, paper + pencils for recording mark roundings;
- blackboard + chalk (or any other system suitable to both resist water and from which the writing can be removed later);
- Sound signal device.

Appendix 2I - Safety Officer's responsibilities + list of Patrol materials

Before the start of the regatta

a) prepare the Patrol plan, in conjunction with the Race Committee, and in accordance with the programme, course and distances;
b) establish the mission of each of the crews and boats;
c) procure, prepare and check out the materials, boats, engines, equipment and communications of each Patrol boat;
d) prepare a list of materials for the boats;
e) procure and select the crew for each boat;
f) be aware of contents of the Sailing Instructions, time and number of daily races and land and sea signals of the Race Committee;
g) hold a meeting with the Patrol personnel to explain in detail the general instructions and the instructions specific for each boat. It is advisable to hold (part of) this meeting together with the rest of the Race Committee;
h) instruct personnel on practical matters relating to emergency procedures, operation of the watercraft, actions to take, towing of boats, relevant characteristics of competing boats, RC signals, etc.;
i) prepare a telephone and address list for emergency use: Red Cross, doctors, dentists, etc., hospitals, ambulance, police, harbour patrol, etc.

Before each racing day

a) supervise the checking of the condition of each Patrol boat, all equipment and communications;
b) check that all Patrol boats have been refuelled (as a rule, refuelling will have been taken care of immediately after racing the night before);
c) check that each boat has provisions of food and drinks;
d) check adequacy of crew clothing;
e) check communications, fresh batteries and the operation of transmitting to and receiving from the Race Committee, the Mother boat and the Race Office;
f) inform crews of meteorologic reports;
g) Signal when each crew is to go out.

During the races

a) follow, direct, coordinate and check the task and actions of each crew;
b) maintain contact with the Race Committee;
c) scout the course and arrange for any vessels requiring support to be towed to the Mother boat or to shore.

At the end of each racing day

a) upon arrival on land check with the Race Officer and the Beach Master to confirm return of all competitors and RC boats. Rescue operations must not be terminated until the expiration of the time limit for the race;
b) in case of any missing competitor, organize and direct the search, while maintaining communication with the Regatta Chairman;
c) receive all reports from the Patrol boats regarding needed repairs to the equipment, and cause the repairs to be made;
d) write report to the Race Committee, if appropriate;
e) check the mooring and refuelling of all Patrol boats.

Safety materials

Patrol boats

- life vests for the crew;
- 1 rescue life ring;
- 1 or 2 extra petrol cans;
- a mooring line of 25 m length;
- fixed attaching device for the towing line (toward the centre of the boat);
- oars;
- anchor set (3x area depth);
- saw knife to cut lines;
- transmitter-receiver;
- extra batteries;
- waterproof case;
- air pump;
- spark plug wrench, monkey wrench, spare plugs;
- whistle;
- 20 kg deadweight.

Mother boat equipment

- UHF radio;
- VHF radio;
- cellphone;
- spare parts;
- first-aid kit;
- blankets;
- fuel for the Patrol boats;
- mooring line, 50 m with knots every 4 m;
- tool box.

Appendix 2J - Social Committee tasks

1. Aspects to be addressed

- opening ceremony;
- reception during the regatta;
- closing ceremony;
- invitations (printing and sending);
- flags and national anthems;
- Social Program protocol;
- Master of Ceremonies;
- General Assembly and technical meetings;
- cultural activities;
- shows;
- bar - restaurant/self-service;
- foods;
- recreation rooms.

2. Tasks of the Social Committee Chairman

- draft the proposal (see below) and prepare the Social Program;
- program and plan all action related to the development of it;
- coordinate the Social Program with the other areas of the organization;
- assemble the necessary personnel;
- rehearse the program's acts;
- execute the program.

3. Details of a Social Program proposal

A Social Program proposal should be presented for approval to the Regatta Organizing Committee well in advance. It should include the following:

a. *Introduction*: Explanatory of the objectives to cover for the Social Program.

b. *Technical description of the programe*: the location, the placement of any stages, their setup, the dates and hours, persons or groups participating and description of the acts themselves.

c. *Listing of guests and volunteers*

- a review of VIPs to be invited, and how and by whom they will be welcomed;
- a list of people who will participate in the various functions.

d. *Documentation needed for each of the functions*

- invitations + cover letter + envelopes;
- press, radio and TV releases;
- banners;
- notices;
- programmes;
- tickets, etc.

e. *Personnel*

Determine the number of persons required for the organization, detailing for each function and clearly assigning personnel services, contract services (drivers, concierges, doormen, security, access control, attendants, etc.), technicians (lights, sound, etc.), restaurant service (waiters, bartenders, cooks, etc.), photographers, musicians, etc.

f. *Equipment*

- stage (podium, carpentry, ornamentation, etc.);
- vehicles for transporting personnel and materials;
- furniture (chairs, tables, projectors, curtains, carpets, etc.);
- table service (glasses, silverware, tablecloths, napkins, flowers, etc.);
- installations and services (lights, sound, video, etc.);

g. *Budget*

There should be a detailed budget of each of the functions, with expenses and estimated income from tickets, the bar, etc.

4. Opening Ceremony

The following list gives some options:

Formal part

- band; opening music;
- entrance of authorities;
- welcome from the Master of Ceremonies, presentation of the ceremony programme;
- entrance of competitors by team, with their flag bearer and national banner (accompanied by music if desired);
- raising of the national flags (accompanied by the corresponding national anthems if desired);
- welcome speech by the Regatta Chairman;
- opening declaration by the highest authority present + raising of the Championship (Class) flag;
- exit of the competitors.

Informal part

- musical performance by singer, pianist, group, etc.
- exhibition by local dance group;
- fireworks;
- cocktails, lunch, dinner;
- etc.

Fairly small or not-so-formal regattas may prefer to have a reception at the Club

(wine + cheese, pizza, etc.) or at City Hall.

5. Closing Ceremony

Formal part

- band; opening music;
- entrance of authorities;
- welcome from the Master of Ceremonies; presentation of the ceremony programme;
- entrance of competitors by team, with their flag bearer and national banner (accompanied by music if desired);
- raising of the national flags (accompanied by the corresponding national anthems if desired);
- speech by the Regatta Chairman;
- prize-giving ceremony;
- closing declaration by the highest authority present + lowering of the Championship (Class) flag;
- exit of the competitors.

Informal part

- dinner;
- exhibition by local dance group;
- fireworks;
- cocktails, lunch, dinner;
- farewell party, live music.

Appendix 2K - Media

1. Press Brochure

An official presentation of the regatta should consist of a brochure that may include:

- Notice of Race;
- resume of the Club's history in organizing major events;
- description of regatta format;
- organizational chart;
- names of confirmed competitors;
- description of the Classes;
- weather data;
- Social Programme;
- map of facilities;
- promotional material;
- list of Clubs, Associations and Authorities involved;
- list of sponsors.

2. Presentation of the Regatta to the Media

- coordinate a press conference for all media, press, TV, radio;
- announce the meeting by mail followed by telephone calls to explain the reason for the meeting. Insist on talking to the Section Chief or Director of the various media, requesting (and in the end perhaps demanding!) their attendance;
- distribute promotional gifts (shirts, pens, etc.) during the press conference before the competition;
- arrange for the local media to be invited to a lunch or cocktail hour a few days before the regatta to give them more detailed information and meet some competitors;
- make an attendance list during the press conference, including names, positions and media represented. After the conference send an extra letter or make an extra phone call to those who did not attend;
- arrange interviews for radio and TV with competitors and organizers.

3. Tasks during the regatta

- organize the Press Office;
- welcome the press + provide them with credentials (see item 5 below);
- arrange for all newspaper clippings and TV recordings to be collected (may be delegated to a professional organization);
- identify the need for materials for auxiliary services;
- provide daily communiqués;
- distribute information to the media and ensure all their questions are answered either by yourself, or by another official;
- organize the Press boats.

4. After the regatta

- make a report on the estimated impact of the regatta on the media and give suggestions for future improvement;
- arrange for a graphic presentation (slides, video, brochure with photographs, etc.) of regatta highlights;
- distribute final press releases to the media (results, reports, photographs, etc.).

5. Credentials

Types

Various types are possible, depending on the need to identify everyone, limit access, etc. From the simplest to the most complex, here are some options:

a. a paper name label with a coded colour bound in plastic with a clip or string;
b. same as above, but with photo;
c. on safety paper with multiple information, photo and signature on a magnetic strip. Agfa, Kodak and Polaroid have sophisticated equipment to produce this type of accreditation.

Identification

If it is desirable to give everyone involved some ID, the following (sub-)grouping (according to some colour coding scheme) is an option:

a. media (graphic press, newspapers, radio, TV)
b. regatta organizers (Race Committee, Measurement Committee, Protest Committee, etc.);
c. competitors, coaches, teamleaders;
d. special guests (members of National or International Federations, dignitaries, and other VIPs);
e. observers, visitors.

Appendix 8A - Table for shifting the windward mark

Course from 3 to 1 = X° (based on old-style Olympic triangle). Distance from 3 to 1 = 1.5 or 2 NM, resp.				When wind is veering: X°+ no. of degrees listed below When wind is backing: X° - no. of degrees listed below			
Windshift in degrees	Degrees + or - in relation to X°	Distance from 1 to 4 or 5 at 1.5 and 2 NM, resp.		Windshift in degrees	Degrees + or - in relation to X°	Distance from 1 to 4 or 5 at 1.5 and 2 NM, resp.	
5°	92°30'	0.12	0.36	95°	137°30'	2.22	2.96
10°	95°	0.27	0.36	100°	140°	2.31	3.08
15°	97°30'	0.39	0.52	105°	142°30'	2.37	3.16
20°	100°	0.52	0.69	110°	145°	2.46	3.28
25°	102°30'	0.65	0.87	115°	147°30'	2.52	3.36
30°	105°	0.78	1.04	120°	150°	2.61	3.48
35°	107°30'	0.90	1.20	125°	152°30'	2.67	3.56
40°	110°	1.03	1.37	130°	155°	2.73	3.64
45°	112°30'	1.15	1.53	135°	157°30'	2.77	3.70
50°	115°	1.27	1.69	140°	160°	2.82	3.76
55°	117°30'	1.39	1.85	145°	162°30'	2.86	3.81
60°	120°	1.50	2.00	150°	165°	2.91	3.88
65°	122°30'	1.61	2.15	155°	167°30'	2.93	3.90
70°	125°	1.72	2.29	160°	170°	2.95	3.92
75°	127°30'	1.83	2.44	165°	172°30'	2.97	3.94
80°	130°	1.93	2.57	170°	175°	2.98	3.96
85°	132°30'	2.03	2.70	175°	177°30'	2.99	3.98
90°	135°	2.12	2.83	180°	180°	3.00	4.00

Appendix 12A - Scoring

When the regatta starts, the system of scoring the race results and calculating overall points and places has already been determined (see Section A, Chapter 5.1, Notice of Race, and *RRS A – Scoring*). At this point in time the only concern of the Race Committee is to make sure that the scoring system is applied correctly and that each boat receives the points and places in accordance with her racing results and possible decisions of the Jury.

Nowadays it seems easy to calculate results because both computers and scoring programs are readily available. However, there is much more to dealing with results and scoring than just having a computer and knowing how to use it.

Accurate and fast results are the hallmark of an experienced regatta organization. Sailors – and, of course, friends, relatives, the press, etc. – are very anxious to know how they did and where they stand. As a general guideline, every attempt should be made to have a list of preliminary results posted on the Notice Board as soon as the sailors reach the shore and have secured their boats.

To be able to produce results, it is necessary that accurate recordings be kept of anything that has (or will have) to do with the boats' results. This includes for each race: whether one or more boats did not come to the starting area in the race concerned (DNC); whether one or more boats should be ranked as 'Did not Start' (DNS); whether boats were recorded as boats on the course side of the starting line and failing to comply with *RRS 29.1* or *RRS 30.1* (OCS); whether boats are disqualified because infringing the Black Flag Rule (DSQ) or whether a scoring penalty is given due to infringing the Z Flag Rule (ZPG); whether boats stopped racing without finishing (DNF) and - most important of all - accurate recordings of the finishing order.

All this information should be written on paper (lists drawn up in a systematic manner prove extremely helpful). Sometimes, it is difficult if not impossible to write on paper (e.g. a Committee boat pitching in heavy seas is not an ideal platform for writing, and it becomes impossible when the paper gets wet due to spray or rain). The use of battery-driven tape recorders (pocket size memo recorders) will make the Race Committee's work much easier. The recording on tape should be transferred to paper at the first reasonable opportunity.

Tape recorders are also extremely useful as a "second source" of finishing information, particularly when boats finish close together in great numbers. The person recording the finish on tape should operate independently from the person(s) writing the numbers down on paper. After the last boat has finished, the list(s) and the tape should be compared and the final written finishing order established.

The information from the start (DNC, DNS, OCS / ZFP / BFD if any), the DNF's and finally the finishing order should go to the Results Office (see Section A, Chapter 2.2) for processing.

When races are held far from the shore and the number of competitors is not too large, the information can be radioed to the shore to a person who writes down the data on forms in a systematic manner. Make sure to double-check all the information that is sent in (have the person on the receiving end repeat all the numbers in sets of five or ten boats).

If a photocopying machine is available, copies of the results of each race of the day (i.e. DNC, DNS, OCS, ZPG, DSQ, DNF and the finishing order) can be made and one posted on the Notice Board right away. Do not forget to clearly mark "PRELIMINARY" on all such listings. Meanwhile, the scorer(s) start calculating points and (overall) ranking in the regatta.

Whatever scoring system is used, all boats whose entry was accepted will receive a score (and the points associated with that score) for each race, regardless of whether they sailed or not. DNC and DNS are scores against which points are to be allocated the same way as for boats that finished. Scorers should make sure that no boat is forgotten when points are awarded for a race.

Calculating results can be done "manually" - that is, using lists of competitors with positions for places and points for each race and a column in which the overall score (places and points, considering Jury decisions, if any) can be entered. In offshore racing with boats competing under a rating system, other factors than the finishing position will be important, such as the time of finishing and the individual boat's rating.

Nowadays there are excellent computer programs available that will make the scorers' life much easier. Whenever a computer is to be used for calculating results, be sure to do thorough test runs, checking every single function of the program well before the regatta takes place. Nothing will cause as much frustration and panic as a computer program producing an irrecoverable error or a "bug" at the time when everybody keeps asking how much longer it will be until the prize giving ceremony. When a club or a Regatta Organizing Committee first starts using computers, it is good practice to keep "manual" records as a shadow system, until it is completely convinced that the results calculated with the computer are faultless and that the machine keeps working to the bitter end.

Jury decisions must become part of the racing results as well. Boats disqualified after a Jury hearing should receive the points associated with a DSQ or DNE score (points will vary according to the scoring system used) and boats penalized in a different way (e.g. a percentage penalty) or receiving some form of redress (RDG) by the Jury or retiring after finishing (RAF) for some reason should receive points accordingly.

Not many computer programs will be capable of automatically upgrading the overall score for average points granted to a boat for a race, following a request for redress. Often, the redress granted will be "average points over an *x* number of races" or "average points over all races excluding the last race".

There are many other decisions which a Jury may take - the *RRS* merely state that the Jury or Protest Committee *"... shall make as fair an arrangement as possible for all boats affected, whether or not they asked for redress..."* (*RRS 64.2*). Keeping track of the RDG (Redress given) decisions of the Jury/Protest Committee and updating the overall results of the regatta as the event progresses is a matter of special concern to the scorers.

It should be the Chief Scorer's personal responsibility to make sure that the information sent out to the

sailors and the press is correct at all times. In major regattas with a large number of classes and competitors, it is good practice for the Chief Scorer to sign any score list that leaves the Results Office for official publication.

Appendix 13A - Control of aircraft and special boats

Aircraft

In major regattas, aircraft control is a growing problem, particularly from photographers using helicopters. If government agencies will not issue restrictive regulations for the area of the regatta site, the Organizing Authority should contact the helicopter companies directly and provide them guidelines for aerial access to the regatta site.

The following text is an example of a document addressed to helicopter charter companies who intend to provide flight services to press personnel or spectators viewing the event. The aim of providing this information would be to enable them to view the races from the air without interfering with the fairness of the competition on the water.

> "In past events, competitors have complained that helicopters flying in close proximity to the boats in the events have directly interfered with the competitors. This interference arises from two sources.
>
> a) The first is interference with the wind which is the primary power that all the sailboats depend upon.
>
> If an aircraft places itself between the source of the wind and the sailboat, the flow of the wind is disrupted and the sailboats ability to maintain a specific course and speed is impeded. This can occur from as far away as a quarter of a mile.
>
> If an aircraft approaches close enough to a sailboat that the downdraft it creates strikes the sails and causes them to collapse, the competitor again is unable to maintain a specific course and speed. This can occur from distances less than 400 ft if the helicopter is directly overhead or directly upwind from the racing boat. Likewise, this can happen on a rapid windward approach to a sailboat at a low altitude.
>
> b) The second interference is the noise caused by helicopters hovering in close proximity to a sailboat. The crew members rely solely on voice communications while racing and it is difficult at best when shouting into the wind from the helm to the foredeck. However, when you add to this the noise of a helicopter hovering nearby, it makes communications impossible. This can result in not only affecting the performance of the boat but also the safety of the boat since it is critical that crew members be able to hear the voice commands during manoeuvres which can otherwise result in dismastings or collisions with other racing boats.
>
> c) Often your passengers, who may be professional photographers, will urge you to fly closer and closer to the racing boats. Their only interest is to get an exciting photograph no matter what the cost may be to the competitor. We rely on you to use sound judgement and refuse requests when they may endanger the boats or affect the fairness of competition. Remember, these international competitors have come from great distances at great expense to sail in this competition under the best racing conditions available. We want them to return for our next event and your cooperation will help us achieve that goal."

General guidelines for aircraft could read as follows:

GUIDELINES FOR AIRCRAFT

The following guidelines should be used to help provide safe and fair competition to the international yachtsmen that are participating in the event:

a) Do not place the aircraft between any racing boat and the source of its wind.

b) Do not make rapid approaches toward a boat when at low altitude.

c) Do not approach lower than 400 ft altitude when directly overhead or directly upwind from a racing boat.

d) Reduce noise problems by not hovering near boats for more than 30 seconds at a time.

e) Move away from a boat when crew members begin waving at you. They are trying to communicate to the aircraft that it is interfering with their performance.

f) When concentrating on one boat, always be aware of the proximity of other boats which may be affected by your manoeuvres.

Special boats

Control of special boats including press boats, team support boats and spectator boats will require the Organizing Authority to issue special guidelines for each category.

Press Boats

The Organising Authority should select a means for designating special types of press boats. This may be done by the use of flags or banners. Separate designation and identification should be made for the categories of photographers (including television crews), yachting journalists and the general press.

Separate control areas then may be established based on need for access and identification of press boats. A diagram should be prepared to identify areas of restricted access for each level of press boat. Briefings must be held with drivers of all press boats to inform them of problems caused when they drive in a location or in a manner that affects the fairness of competition. A general set of guide lines is attached.

Team Support Boats and Coaches

The control of team support boats and coaches will depend largely on the size of the racing boats and size of their support boats.

(a) The Notice of Race should contain instructions that all team support boats and coaches must register with the Organizing Authority. If the event is hosting international competitors from overseas areas, the Organizing Authority may have to make provisions for team coaches on a general support boat. In some cases team coaches may be assigned to space aboard support boats from other countries.

(b) Rules should be established in the Sailing Instructions for team support boats regarding their contact with or communication with racing boats while racing. Coaches and boat operators should be briefed regarding these rules and actions which may be taken in cases of infringement.

(c) The Organizing Authority may also assign additional duties to the team support boats and coaches such as rescue operations in case of emergency.

Spectator boats

Spectator boats should be provided with guidelines and diagrams of restricted areas to ensure that they do not interfere with the competitors.

GUIDELINES FOR PRESS & SPECTATOR BOATS

A major problem in any race is the fact that press boats and spectator boats may create conditions which affect the fairness of competition. Each racing boat is entitled to sail in an area which has clean air and standard sea conditions, except where she may be affected by the tactics of other competitors. In order to provide these conditions press boats and spectator boats are requested to observe the following guidelines:

a) Never position your boat between a racing boat and the source of its wind (to windward).

b) When approaching a racing boat for photographic purposes always approach at moderate speed from the leeward side or from astern. Never approach a boat at high speed!

c) Never approach so close that your wash/wake creates turbulence in the water in which a boat is racing.

d) Never approach so close that the wind deflected off the superstructure of your boat disturbs the air in which the boat is racing.

e) Always be aware of the wash/wake pattern of your boat and never drive in areas in front of racing boats where your wash/wake will affect the waters in which they sail. Remember, your wake/wash covers a wide fan-shaped area behind your boat and it takes several minutes for the water to return to its original state.

f) When paralleling a racing boat for photographic purposes, take your photos and then bear away. Do not drive parallel for periods of longer than 30 seconds as you may distract the helmsman and cause him to sail less efficiently than he normally would. Also remember the sound of your engine is not only distracting but makes it difficult for crew members to hear commands from the helmsman.

g) When concentrating on photographing a single boat, always be aware of other racing boat you may be affecting.

Appendix 16A – Suggested Umpire and Race Committee Equipment

Competitor Boats

Each team should be provided with a set of 5 flags containing:

- Y (RRS Part 2 protests)
- Red (red-flag protests)
- Green or code flag "L" (Breakdown)
- Blue (ID-flag)
- Yellow (ID-flag)

Y flags should be approx. 30 cm square, on a pole approx. 80 cm long.

Red and Green/Lima flags should be approx. 30 cm square, and capable of being attached to a shroud or backstay.

Blue and Yellow flags should be at least 40 cm square, and capable of being attached to a backstay.

Umpire Flags

The Event Organiser is usually responsible for supplying umpire flags. Each umpire and wing boat should be equipped with a set of 4 flags:

- Green/White
- Blue
- Yellow
- Black

Yellow and Blue flags should be of the same colour as the yellow and blue flags provided to competitors.

Green/white flags should consist of four squares, alternating between green and white.

All of the flags should be at least 40 cm square an mounted on poles approx. 80 cm long.

In addition to the flags listed above, each umpire boat should be identified by a white flag bearing „ U“, IU or „ Umpire“ (in black).

Wing boats should be identified by a white flag bearing the word „ Wing“ (in black).

Penalty shapes

If delayed penalties are to be used, each umpire boat should be provided with four penalty shapes (2 blue and 2 yellow) and a pole on which to display them. Small fish buoys painted bright yellow and bright blue are an inexpensive solution. Painted foam or wooden shapes have also been used effectively. The pole can be a small dowel which is taped onto a conspicuous location.

Signal Boat Flags

In addition to the usual complement of flags, the signal boat must be equipped with yellow and blue recall flags (of the same colour as the flags provided to competitors), pennants to distinguish

the flight and match (usually numeral pennants) and flags F and P.

Umpires Equipment

Each umpire boat should be equipped with a VHF radio and whistle. Umpires usually provide their own whistles, and sometimes radios too, but the issue should be discussed by the Chief Umpire and the Principal Race Officer in advance of the event.

Marks

It is strongly suggested that the start/finish mark be of a shape and/or colour that is distinguishable from the leeward mark. Likewise, a new (changed) mark should be of a different shape and/or colour as an original mark.

Umpire Boats

Umpire boats should be easily manoeuvred, preferably open with centre consoles. A boat of approximately 6 to 7 meters which leaves little wake is ideal. Large boats are not desirable because they cannot be manoeuvred sufficiently to follow the action. Small boats, in which the umpires cannot stand, should be avoided if possible. Wing boats should, if possible, be of the same size and type as the umpire boats. If necessary, smaller boats, in which the wing umpires sit, may be used so long as the boats are fast and easily manoeuvrable.

The Chief Umpire and the Principal Race Officer should discuss in advance whether drivers will be provided, or the umpires will drive the boats. If drivers are provided, they should be experienced boat handlers. The umpires should be able to stand within close proximity to the driver, so they can discuss boat positioning.

Spares

It is helpful to maintain a set of spare competitor and umpire flags. These can be left in the control of the Chief Umpire throughout the event.

Index

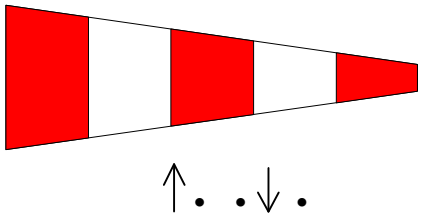
INDEX

Entries are arranged alphabetically. References are to Chapters and Appendices of this Manual; they are arranged in the order in which they appear in the Manual. In order to find more subjects than listed below, please refer to the Table of Contents at the beginning of this Manual or the more detailed Contents at the beginning of each Chapter.

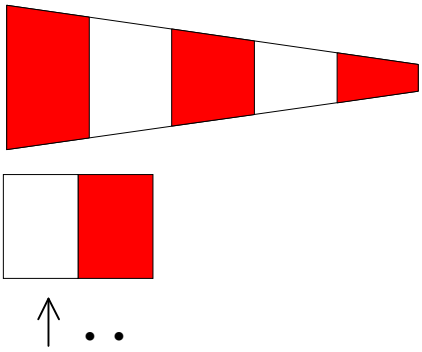
RACE SIGNALS

The meanings of visual and sound signals are stated below. An arrow pointing up or down (↑↓) means that a visual signal is displayed or removed. A dot (•) means a sound; dots with dashes (•- - - •) mean repetitive sounds. When a visual signal is displayed over a class flag, the signal applies only to that class.

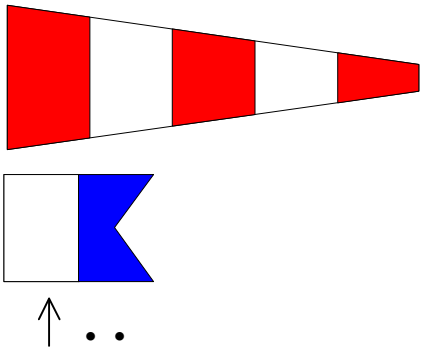
Postponement Signals



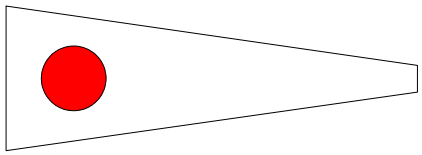
AP Races not started are *postponed.* The warning signal will be made 1 minute after removal unless at that time the race is *postponed* again or *abandoned.*



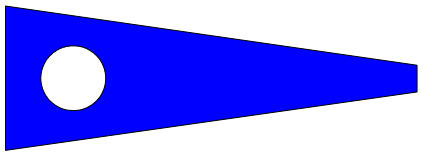
AP over H Races not started are *postponed.* Further signals ashore.



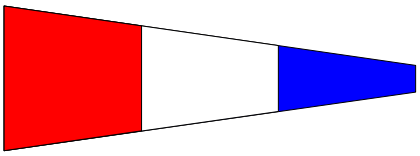
AP over A Races not started are *postponed*. No more racing today.



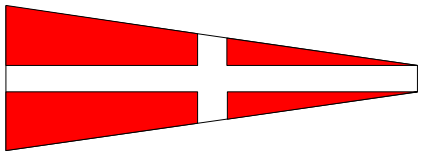
Pennant 1



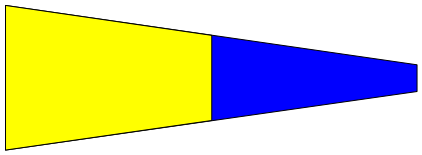
Pennant 2



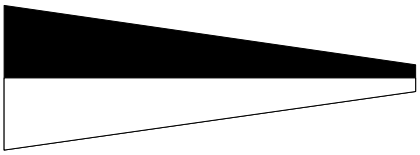
Pennant 3



Pennant 4



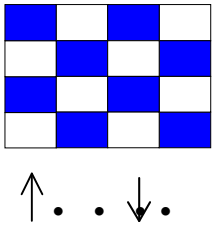
Pennant 5



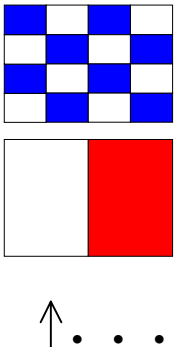
Pennant 6

AP over a numeral pennant 1–6 *Postponement* of 1–6 hours from the scheduled starting time.

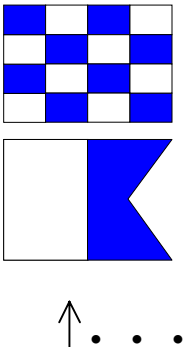
Abandonment Signals



N All races that have started are *abandoned.* Return to the starting area. The warning signal will be made 1 minute after removal unless at that time the race is *abandoned* again or *postponed.*

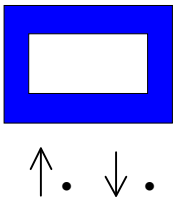


N over H All races are *abandoned.* Further signals ashore.

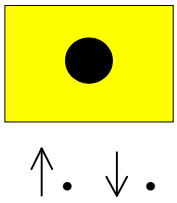


N over A All races are *abandoned.* No more racing today.

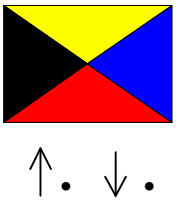
Signals Before the Start



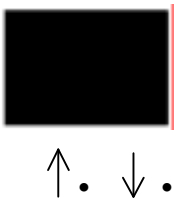
P Preparatory signal.



I Rule 30.1 is in effect.

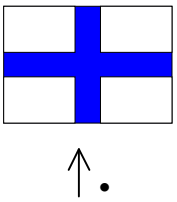


Z Rule 30.2 is in effect.

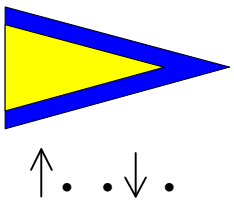


Black flag. Rule 30.3 is in effect.

Recall Signals

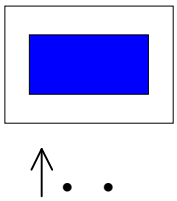


X Individual recall.



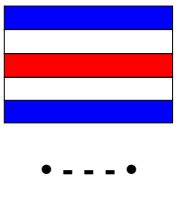
First Substitute General recall. The warning signal will be made 1 minute after removal.

Course Change Signals



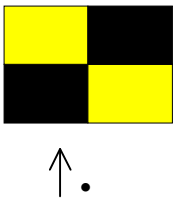
S No later than the warning signal: Sail the short course.

At a rounding or finishing *mark:* *Finish* between the nearby *mark* and the staff displaying this flag.



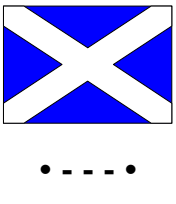
C The position of the next *mark* has been changed.

Other Signals

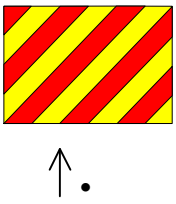


L Ashore: A notice to competitors has been posted.

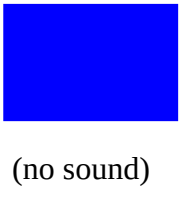
Afloat: Come within hail or follow this boat.



M The object displaying this signal replaces a missing *mark.*



Y Wear personal buoyancy.



(no sound)

Blue flag or shape. This race committee boat is in position at the finishing line.