INTERNATIONAL SAILING FEDERATION

RADIO SAILING DIVISION

ISAF
AFFILIATE MEMBER

About the New 2002 ISAF–RSD International Class Rules

Introduction

The new One Metre, Marblehead and Ten Rater international class rules came into effect on 1st March 2002. These notes are designed to help those who need to use the class rules and to answer some questions which may be prompted by the revised format.

ISAF–RSD international class rules are expected to follow ISAF Standard Class Rules (SCR) format. The new class rules have a common layout which will become increasingly familiar to sailors of boats big and small as time goes on.

The new class rules make extensive reference to the ISAF Equipment Rules of Sailing (ERS).

And since the ERS is a key part of the revised class rules, it will be discussed first. For our purpose, the ERS, written by the ISAF Measurement Committee, can be thought of as a list of standard definitions and procedures that can be made use of by the class rules. The ERS consists of three parts:

- Part I contains rules that restrict the way the crew uses its equipment.
- Part II contains definitions of words and terms related to equipment and measurement
- Part III contains rules that are related to measurement

The ERS is available on the ISAF website at www.sailing.org/ers2001/.

More about Part I of the ERS

You will be able to find these rules collected together in the ERS whereas you will have to search through the RRS in order to locate them. This should make it easier for sailors to know what they can do with their equipment at an event.

More about Part II of the ERS

Part II has the many words and terms that are frequently used in class rules and it gives them formal definitions. These terms are printed in **bold** in the ERS, and when they are printed in **bold** in the class rule, the definition in the ERS applies. It is analogous to the use of *italics* for words defined by the RRS in the RRS.

Rigging for example, is defined as:

> 'Any equipment attached at one or both ends to **spars**, **sails** or other **rigging** and capable of working in tension only.'

Note that if the word is not printed in bold in the class rule, the word is not used in the defined sense. By adopting this convention the class rule documents are shorter and more precise than they would be otherwise.

More about Part III of the ERS

Part III of the ERS contains ‘instructions‘ to measurers setting out the fundamental principles which must be used when no alternative procedure is specified in the class rules. Pay particular attention to section H, which details requirements of measurement. Even if you think you know about measurement procedures, do not overlook this section.

The format of the class rules

The One Metre, Marblehead and Ten Rater class rules have now been compiled in the SCR format and make use of ERS definitions and measurement methods as much as possible.
Each class rule is divided into the same sections. These are:

- Section A Administration, racing rules, class rules, certification, etc.
- Section B What is needed to be eligible to race
- Section C Rules that apply when racing
- Section D Hull rules
- Section E Hull appendage rules
- Section F Rig rules
- Section G Sail rules (in the Ten Rater class rules, also H, & J)
- Section H Diagrams (in the Ten Rater class rules, section K)

A significant effect of this format is that only rules of Sections D, E, F and G are checked at the time of **fundamental measurement** (defined as 'measurement required to ensure compliance with the class rules' – see note later). Each section is written, as far as possible, in a way that permits the equipment covered in that section to be measured as much as possible without having the equipment in other sections available. Thus a sailmaker can expect to find all he needs to know about the class rules in Section G and he should be able to make and measure sails without needing to know about the spars they are set on. Manufacturers should be principally concerned with Sections D, E, G and G.

Rules which apply to the way in which component parts are brought together, e.g. hull appendages and the hull, or the sails and rig, are placed in Section C. This is done because the way the parts are assembled can determine whether or not the boat complies with the rules when racing. Sailors should be principally concerned with the rules in this section as, even though the equipment may have been certified as being in class as a result of successful fundamental measurement, Section C restricts what he can do with it afterwards and while racing.

This method of splitting the class rules into ‘stand alone’ sections may make the class rules somewhat longer. The net result though is that many areas are now well defined in writing where in the past there were unwritten conventions that may have varied between countries. Where previously it was very difficult for some sailors to discover these undocumented 'rules', everything should now be accessible.

The format of the class rules, however, does not affect the boats that the classes produce. A very few substantive changes have been made to the effect of the new class rules in order to achieve specific objectives. These changes are detailed later in these notes.

Another significant effect of the SCR format is that sail marks are no longer a measurement matter. We'll come back to this too at the end of these notes.

About measurement

Of prime importance is the distinction between **fundamental measurement** and **event measurement**, as covered in both Parts II and III of the ERS. In order to obtain a measurement certificate (which is now a defined term to prevent any misconceptions) the only items measured are those specified to undergo fundamental measurement in the class rules i.e. as referred to in Sections D, E, F and G. Thus not every item in the class rules is checked. Instead it is anticipated that items in Section C will be checked at events when such checks are desired.

Now let's look at each class a little closer.

International One Metre

The previous set of class rules has been unchanged for seven years with the exception that permission to use the bent wire mainsail head fitting was granted in 2000.

As far as the boats themselves are concerned, there are few changes that will affect owners this time. The significant points are:

- It will be possible for a hull manufacturer to use 'non-permitted materials' if he can negotiate a licence to do so with the RSD and the ICA
- Foam is not a permitted material
- Supports and containers for the remote control equipment shall be made of and joined using only permitted materials for the hull construction – carbon is no longer permitted
- A deck limit mark to which rigs heights are measured is introduced
- There remains no minimum fin thickness limit
- Ball and/or roller bearings remain permitted with no time limit on their use for kicking strap (vang) attachment and gooseneck; mainsail boom sheet blocks; headsail boom sheet blocks; winch running lines on the hull, headsail boom swivel
- Permission to use the bent wire mainsail head fitting remains
- Tolerances on the section dimensions for spars have been introduced
- Standing rigging (headsail stay, backstay, shrouds) shall be of steel (including stainless steel) or polymer (Dacron, Dyneema etc.)
- At an event, each rig may not be raised or lowered more than 5 mm from its 'normal' position
- To help with this restriction a deck limit mark is required
- Sail shape indicator stripes (draft stripes) are limited in number and width
- It will be possible for a sailmaker to supply certified sails (sails which do not require further fundamental measurement) if he can negotiate a licence to do so with his ISAF Member National Authority
- Jackstay and headsail stay diameters have been limited to 1 mm to allow the stays to remain in place during measurement, but not create a loophole in so doing
- The mainsail luff tabling may envelop a jackstay

- Grades of permitted aluminium alloys replace the percentage of aluminium for spar materials
- The effects of previous interpretations have been taken into account where necessary

As mentioned in the introductory section, rules which apply to the boat as a whole unit (as used for racing) are not checked at the time of fundamental measurement. For example, there is no point checking that a jib boom counterbalance weight does not extend beyond the bow in order to issue a certificate because future compliance depends on how the boat is assembled at the race site.

Likewise, because the rules do not require the weight and position of hull corrector weights to be measured and recorded on the certificate, (they do have to be securely fixed during an event – see ERS B.10.1), there is no real need to weigh and float the boat at the time of fundamental measurement. Although the crew may alter the position of these items at any time between events, the important point is that the boat must comply with all the class rules when it races and it is up to the crew to ensure this or face the penalty. There is nothing new in this; the crew was equally liable to maintain his equipment within the class rules and comply with them during racing under the 'old' rules.

Excluding from fundamental measurement what appear to be the major limiting factors (length, draught and weight) in order to get a certificate may seem a little strange at first. In time we will probably become very used to taking greater responsibility for ensuring our boats comply with these aspects of the class rules and accepting the inevitable, but correct, penalty if we fail. If more frequent event measurement is a result this will only raise people's confidence that the rules are being adhered to. In reality, the possession of a valid certificate that might have certified all these items does not in and of itself ensure that they have not been altered. The new rules deliberately adopt a fresh approach to rule observance, perhaps one that is more fitting for our sport.

International Marblehead

The previous class rules were issued in 1996 and amended in 2000 to introduce the depth measurement gauge. There are several significant features of the new class rules:

- The length of the hull is determined in relation to a defined datum waterplane.
- Length, like depth, can be 'dry measured' and allows the measurer to produce an appropriate length gauge
- A deck limit mark to which rigs heights are measured is introduced
- Because the definition of 'appendage' in the ERS does not include lifting foils that have been prohibited in the past, a rule was added that prevents fittings from projecting outboard of the hull shell and deck. This rule covers the 'hull' as defined in the ERS, and not the rig.
- No more then six rigs (sets of spars, fittings and rigging) may be used at an event,
- No more than six mainsails and six headsails, with the maximum of three headsails and three mainsails from any rig/sail group may be used at an event
- The measurement of the 'top width' has been adjusted so that the use of the term is compatible with the ERS, and yet still allow existing sail design and methods to continue to be employed

The first and second of these changes is based on the original proposal from Germany to permit one A rig, two B rigs and three C rigs (in descending order of height). It was argued that this was needed to reduce the cost of competing in the class. This was

judged by the RSD Permanent Committee to be not that agreeable to those countries where boats race most frequently in light airs and where they may have two or three A rigs but few C rigs. The intent of the proposal from our German colleagues, to reduce cost, will hopefully be achieved by the restriction to ‘any six rigs’ at an event. As before, however, an owner may possess any number of rigs and choose which ones he wishes to use at an event.

The method employed to apply this equipment limitation rule is left open to the race committee. At local events it may be reasonable for owners to limit themselves. At higher level national events it might be achieved by the owners declaring in writing which rigs they will use and placing that information on the official notice board for all to inspect. At RSD events one could expect the race committee to place an official stamp on those rigs declared for use.
The third change was prompted by the idea that since the depth limitation method had already been required to operate without use of a tank, checking of the length of a boat and overhangs of fittings and rig should also require a "waterless" method to be both consistent and practical.

Furthermore, checking the length of a Marblehead while floating would have required it to be ballasted and rigged and thus it would become a Section C event measurement under the required SCR format. In effect, a tank would have been needed for event measurement anyway.

We have found that we are not able describe the shape and application of the Marblehead length gauge in such a precise way that it could be made a mandatory part of the rules. This is because each gauge design proposed failed to measure some particular design well. The measurements relating to the "length" are therefore described like other rules and the measurer can use the tools he sees fit to check these measurements. All these measurements can now be checked without floating the boat.

The use of a gauge placed on the hull means that length measurement can be a Section D fundamental measurement and can also be carried out simply at an event too. The RSD Technical Committee is ready to help a potential measurer with different versions of the length gauge. Also, the RSD Technical Committee will try to post a drawing of a suitable gauge on the RSD website.

The rig measurement form looks much like the previous version with page 3 being the sail and rig dimensions as well as the needed calculations. Two versions of page 3 will be released. One is a form, which can be printed and used in the manner of the previous one. The second is an active computer spreadsheet into which data can be entered. The correct calculations will be performed, complete with error massages if the designer/builder get it wrong. The measurer can print it out and sign it with his declaration before sending it to the Certification Authority in that country for processing certificates.

On receipt of the measurement forms the Certification Authority will be able to use another spreadsheet which takes the data on page 3 and produce a certificate ready for stamping and signing.

International Ten Rater

The previous class rules date from 1996 as amended in 2000. There is one significant change in the new rule as far as design is concerned:

It is permitted to have hollows in inset transoms and the upper surface of deck

In addition, the concept of a datum waterplane has been introduced. This makes it quite clear that the various restrictions on placement of rudder, position of hollows in the hull surface etc. are related to a datum waterplane through the measurement marks rather than through a real waterplane which is rather more difficult to accurately determine. This permits 'dry measurement' of all requirements except checking flotation itself which is now a Section C rule.

The new sail and spar measurement form and certificate look very much like the previous ones and are issued as an active spreadsheet. Measurers, designers and others involved will be able to input the sail and spar measurement data, and waterline length, and the measurement forms and rating will be calculated. Adjustments can be made and, when measurer and owner are happy, all measurement forms can be generated. After being printed these will be signed by the measurer and owner with their declarations and passed to the person responsible for issuing certificates for its checking, generation of the certificate stamping and signing.

All New Class Rules

As Division Members were notified last year, ISAF has responded to owner and race committee needs by making advertising category a class issue rather than something decided by the organiser of the event. It is not particularly appealing for skippers to be allowed to prominently display advertising one week when the event's sailing instructions permit it, only to have to remove it the following week when the sailing instructions for the upcoming event do not allow it.

The Division Members were largely in favour of Category C advertising for each of the classes whose class rules were being revised and this is what the new class rules reflect. There is more on this topic on the RSD website at www.radiosailing.org. Do check what you are permitted to do before adorning your pride and joy with advertising.

The requirement for, and measurement of, sail identification marks has been removed from the class rules entirely. Instead, the relevant rules are placed in the Racing Rules of Sailing, Appendix E – Radio Controlled Boat Racing Rules. Appendix E now modifies Appendix G – Identification on Sails, so that its sail identification specifications can apply to international radio-sailed classes.

In Section C of all class rules the class insignia is defined. It shall be displayed on the mainsail above a straight line between the three-quarter leech point and the nearest point on the luff.

Non compliance is therefore entirely in the hands of the skippers, race committee and jury and we should see less passing of the buck over this matter. Measurers are now relieved of the task of having to measure numbers, a tedious job at best. More importantly this is a significant step towards permitting the sale of 'certified' sails by sailmakers (those who have acquired a licence to do so from their ISAF Member National Authority and in the One Metre class initially). This licensing will take a little time to achieve so don't expect your favourite sailmaker to be able to provide this 'ready for the racecourse' service just yet.

Lastly

It is likely that designers, manufacturers, owners and measurers will have more questions relating to the content and meaning of the new class rules. Please bear in mind that it will be necessary to have access to the ERS to aid understanding and that it is essential for all measurers to have a copy. The English language version is obtainable online in PDF format at the ISAF website, or it may be purchased direct from ISAF if your MNA does not supply it. A version in your language may also be available from your MNA.

If, after having checked the rules carefully and the effect, of the ERS definitions (in bold type) that may be referenced by the class rules, you think you do not understand the meaning of a class rule, please do seek guidance. The correct route for this is to ask the authority which issues certificates in your country. If it is unable to give guidance it will consult the RSD's Technical Committee which will be able to do so.

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08. March 2002.

Enclosure: Revised Class Rules material

The following is a list of the material which has been revised and what it replaces:

New	Replaces
One Metre	
Class Rules 2002	Class Rules 1995
Rig Measurement Form 2002	Rig Measurement Form 1995
Boat Measurement Form 2002	Boat Measurement Form 1995
Certificate 2002	Certificate 1994
	Interpretations - All
Marblehead	
Class Rules 2002	Class Rules 1996
Rig Measurement Form 2002	Rig Measurement Form 1996
Boat Measurement Form 2002	Boat Measurement Form 1996
Certificate 2002	Certificate 1996
	Interpretations - None
Ten Rater	
Class Rules 2002	Class Rules 1997
Certificate/Rig Measurement Form 2002	Certificate/Rig Measurement Form 1994
	Interpretations - One
A Class only	
International Class Administrative Rules 2002	ICAR 1997
	Sail Identification Marks Measurement form