

## Appendix 4

### Bye-Laws to Rules 42 to 44 – Regatta Courses

#### 1. FISA Manual for Rowing Championships

In addition to conforming to the Rules of Racing and related Bye-laws, a regatta course and all its technical equipment must also comply with the specifications and descriptions given in the latest edition of "The FISA Manual for Rowing Championships".

#### 2. Stretches of water

##### 2.1 General

A standard international course shall be straight and shall not have less than 6 racing lanes. It shall provide fair and equal racing conditions for six crews. For a course constructed after February 2001, there must be a minimum of eight racing lanes. In addition to the 6 racing lanes there must be sufficient water width available to allow crews to get to the start, to warm up and to cool down safely.

For a World Rowing Championship, Olympic and Paralympic regatta and World Rowing Cup regatta, it is recommended to have a minimum of 8 racing lanes available, plus sufficient water width on both sides of the course to allow for both safe traffic patterns and for moving lanes in case of unequal conditions.

##### 2.2 Length of Water

The minimum length of water necessary to contain the standard international course is 2,120m. For a course for Masters the minimum length is 1,150 m.

##### 2.3 Width of Water

The standard international course shall be at least 108m wide i.e.  $13.5\text{m} + (6 \text{ lanes} \times 13.5\text{m each}) + 13.5\text{m} = 108\text{m}$ .

The minimum recommended width of the course for a World Rowing Championship, Olympic and Paralympic regatta and World Rowing Cup regatta shall be at least 135m i.e.  $13.5\text{m} + (8 \text{ lanes} \times 13.5\text{m each}) + 13.5\text{m} = 135\text{m}$ . This width is a minimum and is only acceptable if a low level TV road is provided alongside the full length of the course.

The ideal recommended width of the course for a World Rowing Championship, Olympic and Paralympic regatta and World Rowing Cup regatta shall be at least 162 m i.e.  $27\text{m} + (8 \text{ lanes} \times 13.5 \text{ each}) + 27\text{m} = 162\text{m}$ . This width allows for traffic movements beside the course and for TV coverage from the water where there is no suitable TV road.

##### 2.4 Depth of Water

For a standard international course the depth of water must be at least 3 metres throughout all racing lanes at the shallowest point if the depth over the course is unequal. However, it is recommended that a course should have a minimum depth of 3.5 metres.

A number of old, artificial courses were constructed with an even depth of 2 metres. As long as they remain with an equal depth at all points on the course then they can still be accepted as a standard international course.

##### 2.5 Local Conditions

The course must be sheltered from wind as far as possible. If not, there should be no natural or artificial obstacles (such as woods, buildings, structures) in the immediate neighbourhood of the course which might cause unequal conditions on the water.

On a standard international course there should be no stream. Any stream existing should be so slight as not to give rise to unequal conditions on the different lanes. The running of the race must not be influenced by natural or artificial waves. The banks must be so designed as to absorb and not to reflect waves.

## **2.6 Plan**

A plan showing the location of the course, the length and the number of lanes and the layout of the technical installations must be included in the advance programme.

## **3. Technical Installations - Category A**

### **3.1 Start zone**

#### **3.1.1 Start pontoons**

The bows of each boat shall be aligned on the start line. This requires the use of start pontoons which may be moved forwards or backwards in order to allow for boats of different lengths. They must be of a solid construction and able to be firmly fixed in position. For World Rowing Championship, Olympic and Paralympic regattas and World Rowing Cup regattas the start pontoons must be connected by land or by a Start Bridge, minimum 2m wide, allowing easy access for officials and for representatives of the media.

#### **3.1.2 Steering Aids**

To assist crews with their steering, the Albano lanes shall be buoyed at 5 metres intervals for the first 100 metres of the course. These buoys shall be of a different colour from those marking the majority of the course - see 3.2.3 Buoys.

#### **3.1.3 Start Tower**

The start tower shall be between 40 and 50 metres behind the start line in the centre of the course. The tower shall be equipped with a covered platform for the Starter which shall be not less than 3 metres and not more than 6 metres above the water level, depending on the distance from the start line. The tower shall be built in such a way that the Starter has a clear view over the entire start area, including the aligner's hut.

#### **3.1.4 Starter's Equipment**

The tower should be equipped with either one or two large clocks that are clearly visible from a minimum distance of 100m to the crews on the course and those crews waiting for the start, or with other equipment which will allow the Starter to inform the crews of the time remaining before the start of their race. In case of delay or postponement, a revised starting time shall be displayed to competitors on a large board by the Starter.

The Starter shall give his instructions and orders by means of a microphone connected to loudspeakers so arranged that they may be heard simultaneously by all competitors. In addition, the start tower must be provided with a red flag, a bell, and a megaphone. This additional equipment shall also be provided as back-up where the start is given by a traffic light system of visible and audible signals. A board and chalks or felt markers shall be provided to enable the Starter to provide visual information to crews of any postponement of races.

### **3.1.5 Radio or telephone communication**

The Starter shall be in direct communication by radio and telephone with the Judge at the Start, the Judge at the Finish, the Control Commission and the President of the Jury.

### **3.1.6 Aligner's Hut**

This shall be a fixed structure placed exactly on the start line, ideally not less than 15 m from the first lane and no more than 30 m. The floor level of the hut should be between 1 m and 2 m above the water level. The hut should provide weather protection for up to 4 persons and there should be enough space so that the Judge at the Start and the Aligner can both be seated on the line of the start one behind the other, both clearly observing the start line. The Judge at the Start shall sit closer to the first lane with the aligner behind him, at a higher level. There shall be radio links between the Aligner and the start pontoon officials and boat holders who shall be provided with earphones.

For a World Rowing Championship, Olympic, Paralympic and Youth Olympic regattas and World Rowing Cup regattas the Judge at the Start must be provided with a false start detection system including a "freeze-frame" video system connected directly to the Starter's start signal. This requires a video camera showing the start line, a computer and two monitors.

### **3.1.7 The Start Line**

The start line shall be the line running between a tautly stretched thin vertical wire (1 mm) in the aligner's hut and the vertical line on a fixed marker on the opposite side of the course. The fixed marker shall be divided vertically and painted one half black and the other half luminous yellow, with the black half in the direction of the finish. The vertical line shall be the line where the two colours meet. The aligner's hut must carry a second thin wire (1 mm) fixed vertically and along the line of the start (80 to 100 cm apart) at the front of the hut and kept in tension. The second wire shall be removable and used for aligning the video camera of the Judge at the Start.

### **3.1.8 Other Facilities**

There shall be facilities for effecting minor repairs in the neighbourhood of the start, (this will require a substantial pontoon). Adequate toilet facilities should be provided either as a permanent fixture or by using temporary units.

### **3.1.9 Start Zone**

The start zone is the first 100m of the course, from the start line to the 100m line. The start zone shall be marked by Albano system buoys of a different colour from those marking the majority of the course and placed at 5m intervals.

### **3.1.10 Alignment Control Mechanism**

All regattas may use an alignment control mechanism in the centre of each lane which shall hold the bow of the boat in a fixed position on the start line until the Starter makes the start. At Olympic and Paralympic regattas the use of such an alignment control mechanism of a type approved by FISA shall be mandatory.

Such a mechanism shall be designed to hold the bow safely, without any risk of damage to the boat. It shall release the bow of the boat immediately when an electrical signal is triggered by the Starter. The mechanism shall also be designed to operate in a "fail safe" manner i.e. if there is any fault with the mechanism, and then it shall immediately release the bow of the boat and move to a position such that no damage can be caused to any part of the boat.

### **3.1.11 Visible Signal and Audible Signal**

At World Rowing Championship, Olympic, Paralympic, Youth Olympic and relevant qualification regattas and World Rowing Cup regattas the start shall be given using a lights system ("starting lights") with a visible and an audible signal. The starting lights showing the visible signal and housing the loudspeaker emitting the audible signal shall be fixed adjacent to each start pontoon. The centre of the starting lights shall be fixed at a height of between 0.7 metres and 1.1 metres above the water level. A starting light shall be positioned 2.5 metres from the centre line of each start pontoon, on the side nearer the centre of the course and visible to the crew on that start pontoon.

The visible signals of the starting lights shall operate in only three positions,

- (a) a neutral (black) position,
- (b) a red light signal,
- (c) a green light signal.

The Starter shall start the race by operating just one button. This button will simultaneously control the green light signal and the sound signal, start the timing system, freeze the video picture for the Judge at the Start and release the alignment control mechanism (if provided).

The control system for the starting lights shall be designed to allow the following order of events as far as the crews are concerned:

- (a) neutral (black) – no lights - no sound signal,
- (b) red light, no sound signal,
- (c) (if necessary, return straight from red back to neutral),
- (d) green light and a sound signal.

The mechanism must not have more than three positions for the visible signal (neutral, red and green) and the control system must be capable of returning from red to neutral without passing through green. The mechanism must ensure that the green light and the sound signal are given at exactly the same time.

Separate starting light units shall be fixed so that they can be seen by the Starter and by the Judge at the Start. The electrical system shall be provided with a duplicate back-up system. Both the red and the green signals shall be clearly visible to the bow person in an eight when positioned on the start even in conditions of bright sunlight.

### **3.2 Between Start and Finish**

#### **3.2.1 Lanes**

The lanes shall be buoyed according to the Albano system. These lanes must be straight and of the same width over their whole length. The width of each lane shall be 13.5m.

(In special circumstances the width of each lane may be reduced to 12.5m).

For a standard international course it is recommended that there should be eight buoyed lanes, (minimum is six).

For World Rowing Championship regattas, Olympic, Paralympic, Youth Olympic Games regattas or World Rowing Cup regattas there shall be a minimum of 8 buoyed lanes.

#### **3.2.2 Lane numbering**

In principle, lane No 1 should be on the left hand side of the Starter in the Start Tower looking towards the Finish. However, where an event is televised, the lane numbering should generally place lane 1 at the top of the television picture.

### **3.2.3 Buoys**

The space between buoys along the axis of the course shall be not more than 12.5 metres but preferably 10 metres except in the Start Zone where it shall be 5 metres. The buoys may be spherical or cuboid in shape but shall be of such material and design that when struck by an oar or boat they will deflect easily and not cause damage or undue interference to the boat or crew. The surface of these buoys (whose diameter shall not exceed 15 cm or square) shall be pliant (not hard).

The colour of buoys shall be the same in all lanes. The colours should be easily visible in all weather conditions. In the Start Zone (the first 100 metres) and at every 250 metre mark the colour of buoys shall be a clearly different colour from the buoys in the majority of the course. In the last 250 metres the colour of buoys shall be the same as those in the first 100 m, or such other colour which is clearly distinct from the colour of buoys in the majority of the course. Except for the Start Zone and each 250 metre mark, each alternate line of buoys may be of alternating colours where this will assist television presentation.

There shall be no buoys on the start line or on the finish line.

### **3.2.4 Distance Markers**

The distance markers shall show the distance in the direction from start to finish. Every 250 metres beyond the start, the distance from the start shall be marked on both sides of the course, either by clearly visible boards of a minimum size of 2 m x 1 m on the banks or by cubes (1 m cube) on the water. They should read, at the first 250 metre mark - "250", then "500", and so on to the 1750 metre mark. There shall be no distance mark at the start or at the finish.

### **3.2.5 Intermediate Times**

Equipment shall be provided every 500 metres for recording the intermediate times and placings of all crews. For World Rowing Championship, Olympic, Paralympic and Youth Olympic and relevant qualification regattas and World Rowing Cup regattas, video cameras providing less than 100 frames per second are not accepted for the taking of intermediate times.

## **3.3 The Finish Area**

### **3.3.1 Finish Line**

The finish line shall be the line running between a tautly stretched thin (1 mm) vertical wire immediately in front of the Judges at the Finish and the vertical line on a fixed marker on the far side of the course. The fixed marker shall be divided vertically and painted one half black and the other half luminous yellow, with the yellow half in the direction of the Start – the vertical line shall be the line where the two colours meet. Alternatively two vertical wires (80 to 100 cm apart) immediately in front of the Judges at the Finish may be used.

The finish line shall be marked on the water by two red flags placed on white buoys at least 5 metres outside the course on each side. If necessary, the two red flags (or one of them) may be placed on the bank. It is essential that these flags be exactly on the finish line and that they do not impede the view of the judges at the finish or the progress of crews going to the start.

### **3.3.2 Finish Tower**

This must be a structure erected exactly on the finish line and placed approximately 30 metres from the outside of the racing lanes. It should have three levels. It should accommodate the timing, the Judges at

the Finish and the photo-finish equipment together in the same room. In addition it can accommodate the commentary, the results board operator, TV cameras and a FISA regatta control room. There must be a loud hooter or horn to signal to each crew that it has crossed the finish line.

### **3.3.3 Area beyond the finish**

There shall be sufficient clear water beyond the finish line to allow crews to stop. Ideally this should be 200m. If the boathouse area is located beyond the finish line this is essential. Under other arrangements a minimum distance of 100 m might be acceptable.

### **3.3.4 Timing and Results Systems**

Times shall be shown to 1/100th of a second on the Results Sheets and on the Scoreboard.

In the case of close finishes the order of finish must be determined by means of special equipment such as a photo-finish camera, capable of measuring and displaying differences to at least 1/100th of a second.

For World Rowing Championship, Olympic, Paralympic and Youth Olympic regattas, a full back up of the timing/ results/ photo finish systems shall be provided and the timing/results/photo-finish systems must comply with the specifications and descriptions given in the latest edition of "The FISA Manual for Rowing Championships".

### **3.3.5 Results/Video Board**

A results and/or video board should be located in a position where it is visible from the main spectator areas and, if possible, by the competitors at the end of the race. The operation of the results/video board must comply with the specifications and descriptions given in the latest edition of "The FISA Manual for Rowing Championships".

## **4. Technical installations - Category B**

4.1 All other courses shall be classified as having Category B technical installations.

4.2 A number of Category B courses may well provide facilities and equipment which make them very close to or similar to Category A courses. In these cases it is quite possible to hold successful international regattas but it would not be possible for them to host World Championships.