APPENDIX R4		
Version 2024	**Proposed changes 2025**	**Comments**
BYE-LAWS TO RULES 31 TO 33 – REGATTA COURSES ***1. World Rowing 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 "World Rowing Manual".* ***2. Stretches of Water*** *a. General – A standard international course shall be straight and shall not have less than six racing lanes. It shall provide fair and equal racing conditions for six crews. In addition to the six 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 and without disruption to racing.* *i. For courses on channels there must be a minimum of eight racing lanes.* *ii. For courses on lakes where the banks on both sides of the racing lanes are at such a distance that there would be no negative impact on the conditions in the racing lanes, a minimum of 8 lanes must be available, of which there could be 6 racing lanes and 2 training lanes.* *iii. For World Rowing Championship, Olympic and Paralympic regattas and World Rowing Cup regattas, it is recommended to have a minimum of eight racing lanes available,*	***BYE-LAWS TO RULES ~~31~~ 32 TO ~~33~~ – 34 REGATTA COURSES*** ***1) World Rowing 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 "World Rowing Manual".* ***2) Stretches of Water*** *a) General – A standard international course shall be straight and shall not have less than six racing lanes. It shall provide fair and equal racing conditions for six crews. In addition to the six 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 and without disruption to racing.* *i) For courses on channels there must be a minimum of eight racing lanes.* *ii) For courses on lakes where the banks on both sides of the racing lanes are at such a distance that there would be no negative impact on the conditions in the racing lanes, a minimum of 8 lanes must be available, of which there could be 6 racing lanes and 2 training lanes.* *iii) For World Rowing Championship, Olympic and Paralympic regattas and World Rowing Cup regattas, it is recommended to have a minimum of eight racing lanes available, plus*	Update Rule numbers.

plus cooling down and warming up areas outside of the racing lanes. *b. Length of Water – The minimum length of water necessary to contain the standard international course is 2,120 m. For a course for Masters the minimum length is 1,150 m. However, for a World Rowing Masters Regatta the minimum length of water must take into account the additional requirements for warm-up and pre-start marshalling behind the start.* *c. Width of Water –* *i. The standard international course shall be at least 95 m wide i.e. 15 m (water width available to allow crews to get to the start + (6 racing lanes x 12.5 m each) + 5 m free space between the racing lanes and the opposite bank = 95 m.* *ii. The minimum width of the course for a World Rowing Championship, Olympic and Paralympic regattas and World Rowing Cup regattas shall be 110 m i.e. 5 m + (8 lanes x 12.5 m each) + 5 m = 110 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. It is strongly recommended a separate return channel for warming up and cooling down to be provided as described in the World Rowing Manual.* *iii. Where there is no TV road, the recommended width of the course for World Rowing Championship, Olympic and Paralympic regattas, and for World Rowing Cup regattas is a minimum of 150 m i.e. 25 m +*	*cooling down and warming up areas outside of the racing lanes.* *b) Length of Water – The minimum length of water necessary to contain the standard international course is 2,120 m. For a course for Masters the minimum length is 1,150 m. However, for a World Rowing Masters Regatta the minimum length of water must take into account the additional requirements for warm-up and pre-start marshalling behind the start.* *c) Width of Water –* *i) The standard international course shall be at least 95 m wide i.e. 15 m (water width available to allow crews to get to the start + (6 racing lanes x 12.5 m each) + 5 m free space between the racing lanes and the opposite bank = 95 m.* *ii) The minimum width of the course for a World Rowing Championship, Olympic and Paralympic regattas and World Rowing Cup regattas shall be 110 m i.e. 5 m + (8 lanes x 12.5 m each) + 5 m = 110 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. It is strongly recommended a separate return channel for warming up and cooling down to be provided as described in the World Rowing Manual.* *iii) Where there is no TV road, the recommended width of the course for World Rowing Championship, Olympic and Paralympic regattas, and for World Rowing Cup regattas is a minimum of 150 m i.e. 25 m + (8 lanes x*	

(8 lanes x 12.5 m) + 25 m = 150 m. This width allows for traffic movements beside the course and for TV coverage from the water. *d. Depth of Water – For a standard international course the depth of water must be at least 2 metres throughout all racing lanes if the depth of the course is equal at all points, or 3 m at the shallowest point if the depth over the course is unequal. A course depth of 2 metres represents the minimum competition requirements. A depth greater than 2 metres may be required to allow for aquatic plant growth. However given the varying nature of aquatic plant growth conditions across the world, it is recommended that this is studied on an individual basis for each course.* *e. 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 trees, buildings, structures) in the immediate neighbourhood of the course which might create wind shadows and cause unequal conditions on the water.* *On a standard international course there should be no stream. Any stream existing should be so minimal 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.* *f. 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.*	*12.5 m) + 25 m = 150 m. This width allows for traffic movements beside the course and for TV coverage from the water.* *d) Depth of Water – For a standard international course the depth of water must be at least 2 metres throughout all racing lanes if the depth of the course is equal at all points, or 3 m at the shallowest point if the depth over the course is unequal. A course depth of 2 metres represents the minimum competition requirements. A depth greater than 2 metres may be required to allow for aquatic plant growth. However, given the varying nature of aquatic plant growth conditions across the world, it is recommended that this is studied on an individual basis for each course.* *e) 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 trees, buildings, structures) in the immediate neighbourhood of the course which might create wind shadows and cause unequal conditions on the water.* *On a standard international course there should be no stream. Any stream existing should be so minimal 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.* *f) 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. Technical Installations – Category A *a. Start zone* *i. Start Pontoons – The bows of each boat shall be aligned on the start line. This requires the use of start pontoons which support a boat-holder and can be moved forwards or backwards in order to allow for the bow of the boats of different lengths to be aligned on the start line. The pontoons must be of a solid construction and able to be firmly fixed in position and shall meet the specifications described in the World Rowing Manual.* *1) For World Rowing Championship, Olympic, Youth Olympic and Paralympic regattas and World Rowing Cup regattas the start pontoons must be connected by land or by a Start Bridge, minimum 2 m wide, allowing easy access for officials, technicians and media. The Start Bridge shall be connected to the land (or the Aligner's Hut) and to the start tower through a floating pontoon.* *2) For regattas where Para events are included, the start pontoons must allow for the standard Para 1x boat (length 6.30m) to be aligned on the start line in addition to all other lengths of boat up to 8+.* *3) For a World Rowing Masters Regatta the start pontoons shall be of the type which allows crews to pass between them from behind.*	*a) Start zone* *i) Start Pontoons – The bows of each boat shall be aligned on the start line. This requires the use of start pontoons which support a boat-holder and can be moved forwards or backwards in order to allow for the bow of the boats of different lengths to be aligned on the start line. The pontoons must be of a solid construction and able to be firmly fixed in position and shall meet the specifications described in the World Rowing Manual.* *(1) For World Rowing Championship, Olympic, Youth Olympic and Paralympic regattas and World Rowing Cup regattas the start pontoons must be connected by land or by a Start Bridge, minimum 2 m wide, allowing easy access for officials, technicians and media. The Start Bridge shall be connected to the land (or the Aligner's Hut) and to the start tower through a floating pontoon.* *(2) For regattas where Para events are included, the start pontoons must allow for the standard Para 1x boat (length 6.30m) to be aligned on the start line in addition to all other lengths of boat up to 8+.* *(3) For a World Rowing Masters Regatta the start pontoons shall be of the type which allows crews to pass between them from behind.* *ii) Steering Guidance – To assist crews with their steering, the Albano lanes shall be buoyed at 5 or 6.25 metres intervals for the first 100 metres of the course. These buoys shall be of*	

ii. Steering Guidance – To assist crews with their steering, the Albano lanes shall be buoyed at 5 or 6.25 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) b) iii) Buoys. *iii. Start Tower – The start tower shall be between 40 and 50 metres behind the start line as close as possible to 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 startarea, including the aligner's hut.* *The Start Tower shall be connected to the start bridge through a floating pontoon.* *iv. Starter's Equipment – The tower should be equipped with either one or two large clocks that are clearly visible from a minimum distance of 100 m to the crews on the course and those crews waiting for the start.* *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 rowers. In addition to the requirements of 3) a) xi) below, the start tower must be provided with a red flag with white diagonal cross, 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 visual and audible signals. A notice board and chalks or felt*	*a different colour from those marking the majority of the course – see 3) b) iii) Buoys.* *iii) Start Tower – The start tower shall be between 40 and 50 metres behind the start line as close as possible to 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.* *The Start Tower shall be connected to the start bridge through a floating pontoon.* *iv) Starter's Equipment – The tower should be equipped with either one or two large clocks that are clearly visible from a minimum distance of 100 m to the crews on the course and those crews waiting for the start.* *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 rowers. In addition to the requirements of 3) a) xi) below, the start tower must be provided with a red flag with white diagonal cross, 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 visual and audible signals. A notice board and chalks or felt markers shall be provided to enable the Starter to provide visual information to crews of any postponement of races.*	

markers shall be provided to enable the Starter to provide visual information to crews of any postponement of races. *v. 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.* *vi. Aligner's Hut – This shall be a fixed structure placed exactly on the start line, ideally not less than 15 metres and no more than 40 metres from the first lane. The floor level of the hut should be a minimum of 1 m above the water level. The hut should provide weather protection for up to 4 persons and their electronic equipment 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 area. 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.* *There shall be installed two vertical wires – one permanently fixed behind the video camera and one removable in front of the video camera. The vertical wires must be exactly in line with the horizontal start line. When looking through the vertical wires towards the sight marker at the opposite side of the course, they must all be in one line.* *For World Rowing Championship, Olympic, Paralympic and Youth Olympic regattas and*	*v) 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.* *vi) Aligner's Hut – This shall be a fixed structure placed exactly on the start line, ideally not less than 15 metres and no more than 40 metres from the first lane. The floor level of the hut should be a minimum of 1 m above the water level. The hut should provide weather protection for up to 4 persons and their electronic equipment 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 area. 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.* *There shall be installed two vertical wires – one permanently fixed behind the video camera and one removable in front of the video camera. The vertical wires must be exactly in line with the horizontal start line. When looking through the vertical wires towards the sight marker at the opposite side of the course, they must all be in one line.* *For 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"*	

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 in accordance with the requirements of the World Rowing Manual. *vii. The Start Line – The start line shall be the line running between the fixed tautly stretched thin vertical wire located in front of the officials but behind the video camera in the aligner's hut and the vertical line on a fixed sight marker on the opposite side of the course. An additional removable vertical wire installed a minimum 80 cm in front of the video camera shall be used for aligning the video camera and shall be removed after each alignment. Both vertical wires must be exactly in line with the horizontal start line. When looking through the vertical wires towards the sight marker at the opposite side of the course, all three marks must be in one line. The vertical wires shall be 1 mm thickness in black colour.* *The fixed sight 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 start line shall be the vertical line where the two colours meet.* *viii. Other Facilities – There shall be facilities for effecting minor repairs in the neighbourhood of the start, (this will require a repair pontoon approximately 3m x 6m, upper edge max. 15 cm above the water level, ideally located near to the Aligner's Hut – used for urgent boat repairs at the Start). Adequate toilet facilities for the officials and media in the start area*	*video system connected directly to the Starter's start signal in accordance with the requirements of the World Rowing Manual.* *vii) The Start Line – The start line shall be the line running between the fixed tautly stretched thin vertical wire located in front of the officials but behind the video camera in the aligner's hut and the vertical line on a fixed sight marker on the opposite side of the course. An additional removable vertical wire installed a minimum 80 cm in front of the video camera shall be used for aligning the video camera and shall be removed after each alignment. Both vertical wires must be exactly in line with the horizontal start line. When looking through the vertical wires towards the sight marker at the opposite side of the course, all three marks must be in one line. The vertical wires shall be 1 mm thickness in black colour.* *The fixed sight 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 start line shall be the vertical line where the two colours meet.* *viii) Other Facilities – There shall be facilities for effecting minor repairs in the neighbourhood of the start, (this will require a repair pontoon approximately 3m x 6m, upper edge max. 15 cm above the water level, ideally located near to the Aligner's Hut – used for urgent boat repairs at the Start). Adequate toilet facilities for the officials and media in the start area should be provided either as a permanent fixture or by using temporary units.*	

should be provided either as a permanent fixture or by using temporary units. *ix. Start Zone – The start zone is the first 100 m of the course, from the start line to the 100 m 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 5 m or 6.25 m intervals.* *x. 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 and World Rowing Championships for Senior rowers the use of such an alignment control mechanism from a provider approved by World Rowing is 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 – such signal shall be simultaneous with the start signal. 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.* *xi. Visual 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 by using a lights system*	*ix) Start Zone – The start zone is the first 100 m of the course, from the start line to the 100 m 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 5 m or 6.25 m intervals.* *x) 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 and World Rowing Championships for Senior rowers the use of such an alignment control mechanism from a provider approved by World Rowing is 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 – such signal shall be simultaneous with the start signal. 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.* *xi) Visual 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 by using a lights system ("starting lights") with a visual and an audible signal. The starting lights showing the visual*	

("starting lights") with a visual and an audible signal. The starting lights showing the visual 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 and1.1 metres above the water level. A starting light shall be positioned 3.0 metres from the centre line of each start position, on the side nearer to the centre of the course and visible to the crew on that start position. *The visual signals of the starting lights shall operate in only three positions:* *1) A neutral (no light) position;* *2) A red light signal;* *3) 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 (if provided) 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:* *4) Neutral – no lights – no sound signal;* *5) Red light, no sound signal;* *6) (If necessary, return straight from red back to neutral);*	*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 and1.1 metres above the water level. A starting light shall be positioned 3.0 metres from the centre line of each start position, on the side nearer to the centre of the course and visible to the crew on that start position.* *The visual signals of the starting lights shall operate in only three positions:* *(1) A neutral (no light) position;* *(2) A red light signal;* *(3) 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 (if provided) 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:* *(4) Neutral – no lights – no sound signal;* *(5) Red light, no sound signal;* *(6) (If necessary, return straight from red back to neutral);* *(7) Green light and a sound signal.*	

7) Green light and a sound signal. *The mechanism must not have more than three positions for the visual 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. The light system should also provide a false start alert which can be activated by the Starter (and also in principle by the Judge at the Start) and which should be in the form of repeated flashing of the red lights and sound signals. 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.* *b. Between Start and Finish* *i. 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 no less than 12.5 m and no more than 15 m and all lanes on the course shall be of identical width. The Executive Committee may approve a minimum lane width of 12 m in exceptional circumstances. For a standard international course it is recommended that there should be eight buoyed lanes (minimum is six).*	*The mechanism must not have more than three positions for the visual 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. The light system should also provide a false start alert which can be activated by the Starter (and also in principle by the Judge at the Start) and which should be in the form of repeated flashing of the red lights and sound signals. 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.* *b) Between Start and Finish* *i) 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 no less than 12.5 m and no more than 15 m and all lanes on the course shall be of identical width.* *The Executive Committee may approve a minimum lane width of 12 m in exceptional circumstances. For a standard international course it is recommended that there should be eight buoyed lanes (minimum is six).* *For World Rowing Championship, Olympic, Paralympic and Youth Olympic Games*	

For World Rowing Championship, Olympic, Paralympic and Youth Olympic Games regattas and World Rowing Cup regattas there shall be a minimum of 8 buoyed lanes. *ii. 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.* *iii. Buoys – The space between buoys along the axis of the course shall be 12.5 metres or l0 metres except in the Start Zone where it shall be 6.25 metres or 5 metres respectively; depending on the thickness of the longitudinal wires making up the Albano course, as defined in the World Rowing Manual. 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 be 15 cm or square) shall be pliant (not hard).* *The colour of buoys shall be the same in all lanes at each point on the course. The colours should be easily visible in all weather conditions. In the Start Zone (the first 100 metres) and at every 250 metre line 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 line,*	*regattas and World Rowing Cup regattas there shall be a minimum of 8 buoyed lanes.* *ii) 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.* *iii) Buoys – The space between buoys along the axis of the course shall be 12.5 metres or l0 metres except in the Start Zone where it shall be 6.25 metres or 5 metres respectively; depending on the thickness of the longitudinal wires making up the Albano course, as defined in the World Rowing Manual. 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 be 15 cm or square) shall be pliant (not hard).* *The colour of buoys shall be the same in all lanes at each point on the course. The colours should be easily visible in all weather conditions. In the Start Zone (the first 100 metres) and at every 250 metre line 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 line, each alternate line of buoys*	

each alternate line of buoys may be of alternating colours where this will assist television presentation. *iv. 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 1,750 metre mark. There shall be no distance marker at the start or at the finish.* *v. 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, Youth Olympic and relevant qualification regattas and World Rowing Cup regattas, video cameras are only accepted for the taking of intermediate times if they provide 100 frames per second or more.* *c. The Finish Area* *i. 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 sight marker on the far side of the course. The fixed sight 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 finish line shall be the vertical line where the two colours meet.*	*may be of alternating colours where this will assist television presentation.* *iv) 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 1,750 metre mark. There shall be no distance marker at the start or at the finish.* *v) 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, Youth Olympic and relevant qualification regattas and World Rowing Cup regattas, video cameras are only accepted for the taking of intermediate times if they provide 100 frames per second or more.* *c) The Finish Area* *i) 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 sight marker on the far side of the course. The fixed sight 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 finish line shall be the vertical line where the two colours meet.*	

There are two options for the vertical wires for the Photo-finish cameras: *1) Photo-Finish Cameras on different level to Jury & Timing Seats - there shall be installed two vertical wires – either both removable in front of the photo-finish cameras or one in front of the photo-finish cameras (removable) and the second one (fixed) behind the photo-finish cameras. The wire in front of the photo-finish cameras must be at a distance of 100 cm, but a minimum 80 cm, in front of the photo-finish cameras. When looking through the two vertical wires to the sight marker at the opposite side of the course, all three points must be in one line* *There shall be installed a separate fixed wire for the Judges at the Finish and Timing officials to use by sighting against the finish line marker on the far side of the course.* *2) Photo-Finish Cameras on same level as Jury & Timing Seats - there shall be installed two vertical wires:* *a) one behind the cameras, removeable or permanent (depending on the available space)* *b) one at a distance of 100cm (minimum 80 cm) in front of the photo-finish cameras, which should be divided in two sections:* *i) The upper part of the wire, which is in front of the video cameras, has to be removed before racing and should be*	*There are two options for the vertical wires for the Photo-finish cameras:* *(1) Photo-Finish Cameras on different level to Jury & Timing Seats - there shall be installed two vertical wires – either both removable in front of the photo-finish cameras or one in front of the photo-finish cameras (removable) and the second one (fixed) behind the photo-finish cameras. The wire in front of the photo-finish cameras must be at a distance of 100 cm, but a minimum 80 cm, in front of the photo-finish cameras. When looking through the two vertical wires to the sight marker at the opposite side of the course, all three points must be in one line* *There shall be installed a separate fixed wire for the Judges at the Finish and Timing officials to use by sighting against the finish line marker on the far side of the course.* *(2) Photo-Finish Cameras on same level as Jury & Timing Seats - there shall be installed two vertical wires:* *(a) one behind the cameras, removeable or permanent (depending on the available space)* *(b) one at a distance of 100cm (minimum 80 cm) in front of the photo-finish cameras, which should be divided in two sections:* *(i) The upper part of the wire, which is in front of the video cameras, has to be removed before racing and should be easily and accurately fixed back again*	

easily and accurately fixed back again in order for the accuracy of the camera position to be checked at any time. *ii) The Judges at the Finish and Timing officials should be able to use the lower part of the wire by sighting against the finish line marker on the far side of the course at all times during the regatta.* *c) The vertical wires must be exactly in line with the horizontal finish line. They should be maximum 1 mm thick and of black colour.* *d) When looking through the vertical wires towards the sight marker at the opposite side of the course, they all have to be in one line.* *e) There should be no glass in front of the Photo-finish cameras.* *f) In the case where there is no possibility to install a vertical sight marker on the opposite side of the course (e.g. very wide open lake), the finish line may be marked instead by two vertical wires (80 to 100 cm apart) immediately in front of the Judges at the Finish.* *g) 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*	*in order for the accuracy of the camera position to be checked at any time.* *(ii) The Judges at the Finish and Timing officials should be able to use the lower part of the wire by sighting against the finish line marker on the far side of the course at all times during the regatta.* *(c) The vertical wires must be exactly in line with the horizontal finish line. They should be maximum 1 mm thick and of black colour.* *(d) When looking through the vertical wires towards the sight marker at the opposite side of the course, they all have to be in one line.* *(e) There should be no glass in front of the Photo-finish cameras.* *(f) In the case where there is no possibility to install a vertical sight marker on the opposite side of the course (e.g. very wide open lake), the finish line may be marked instead by two vertical wires (80 to 100 cm apart) immediately in front of the Judges at the Finish.* *(g) 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*	

the judges at the finish or the progress of crews going to the start. *ii. Finish Tower – This must be a structure erected exactly on the finish line and placed ideally 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 (where provided), TV cameras and a regatta control room. There must be a loud hooter or horn to signal to each crew that it has crossed the finish line.* *iii. Area beyond the finish – There shall be sufficient clear water beyond the finish line to allow crews to stop. Ideally this should be 200 m. If the boathouse area is located beyond the finish line this is essential. Under other arrangements a minimum distance of 80 m might be acceptable.* *iv. 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 and World Rowing Cup regattas, a full back up of the timing/ results/ photo finish systems shall be provided and the timing/results/ photo-finish*	*and that they do not impede the view of the judges at the finish or the progress of crews going to the start.* *ii) Finish Tower – This must be a structure erected exactly on the finish line and placed ideally 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 (where provided), TV cameras and a regatta control room. There must be a loud hooter or horn to signal to each crew that it has crossed the finish line.* *iii) Area beyond the finish – There shall be sufficient clear water beyond the finish line to allow crews to stop. Ideally this should be 200 m. If the boathouse area is located beyond the finish line this is essential. Under other arrangements a minimum distance of 80 m might be acceptable.* *iv) 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 and World Rowing Cup regattas, a full back up of the timing/ results/ photo finish systems shall*	

systems must comply with the specifications and descriptions given in the latest edition of the World Rowing Manual. *v. Results/Video Board – Where provided, 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 rowers 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 World Rowing Manual.* ***4. Technical Installations – Category B*** *a. All other courses shall be classified as having Category B technical installations.* *b. 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.*	*be provided and the timing/results/ photo-finish systems must comply with the specifications and descriptions given in the latest edition of the World Rowing Manual.* *v) Results/Video Board – Where provided, 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 rowers 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 World Rowing Manual.* ***4) Technical Installations – Category B*** *a) All other courses shall be classified as having Category B technical installations.* *b) 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.*	