

Minutes of the WSC meeting 19/12/2022

Candido Moz	CM	WWSC Chairman
Bruce Cockburn	BC	AAO WSC President
Glen Williams	GW	AAO delegate
Nigel Talamo	NT	AAO delegate
Alexopoulos Dimos	AD	E&A delegate
Gavin Kelly	GK	E&A delegate
Dana Garcia	DG	PANAM WSC President
Larry Gisler	LG	PANAM delegate
Sergio Font	SF	PANAM delegate
Martin Kolman	MK	Skier rep.
Ryan Dodd	RD	Skier rep.
Jo-Anne Moore	JAM	PANAM alternate
Inv. Jerry Jackson	JJ	Tech Committee delegate
Inv Will Bush	WB	World Driver Committee President

Apologise for absence.

Jacinta Carroll, will not attend this meeting as she has just got married and is on her honeymoon.

At 1:05 PM (CET) the meeting is opened.

CM asked the participants that if they had a conflict of interest over any topic being discussed, then they must abstain from the discussion and from voting.

Rule 5.09- Rope Type

Proposed changes

g) Differing rope specifications

Organisers have the option to supply one or more types of rope provided they meet the above specifications.

If multiple types of rope are supplied, there must be a minimum of 2 ropes of each type.

Ropes may be:

- 1) the same brand with the same specifications.
- 2) the same brand with differing specifications; or
- 3) different brands altogether.

The LOC is responsible for determining which type of ropes will be used.

At a World Championships there will be no more than 2 types of rope supplied. 30 days before the start of a World Championship Event, the organiser must announce the rope(s) supplied for the event.

If different ropes specifications are used, skiers will be permitted to choose which rope to use **before their first pass**. No re-ride will be granted if a skier receives the wrong rope.

A skier cannot provide his/her own slalom rope.

Approved

rule 5.13 - Video Specification

Video to be used:

For Judging purposes, **only an official video as determined by the Homologator and Chief Judge prior to the event(s)** can be used. This may be any video **as long as it captures the same view for the entire event** (eg. from the boat).

For a record review and approval process any available video as determined by the Homologator and Chief Judge can be used.

See rule 25 for video resolution and requirements.

Approved

Rule 8 – Slalom

For the boat, see (5.01), for the tow lines (5.09) and (5.11), and for the tolerances see (1.09), (8.05) and (8.15). There may be 2 or 3 people in the boat for slalom.

a) Slalom Handle Check

Skier's supplied slalom handle will be checked after each round skiing by the Jetty Marshall under the delegated responsibility of the Homologator. Should the handle be out of tolerance following this check, the skier's performance in that round is zero. **(From rule 25)**

b) Slalom Information Form

If requested by the Chief Judge and/or the Organiser each Competitor shall complete the Slalom Information Form found in the Appendix to this Rulebook.

Approved

Rule 8.15 - Boat Path

8.15: Boat Path/End Course Video

The Boat shall follow, as closely as possible, a straight path on the centreline of the course. This path shall be maintained from the entrance pre-gates and continue for as long as the skier is in the course.

Boat Path Measurement System

A Boat Path Measurement System, (BPMS) is required for:

- **Record Capability(R), Rankings Lists(L), and Pro events**

All passes ~~at 11.25 and shorter~~ shall be monitored ~~and with~~ applicable buoy and cumulative deviation tolerances **with re-ride situations** applied **at 11.25 and shorter**.

- **Titled Events (World or Confederation)**

All passes ~~at 14.25 and shorter~~ shall be monitored ~~and with~~ applicable buoy and cumulative deviation tolerances **with re-ride situations** applied **at 14.25 and shorter**.

For passes with line lengths longer than defined above the CJ and the Event Judges will decide the appropriate course of action should out of tolerance situations arise.

Mandatory Re-rides

There shall be no more than **two** mandatory re-rides for boat path deviation in a single pass. If during the second mandatory re-ride the boat deviation would require another mandatory re-ride, then the score awarded will be the highest score achieved in tolerance from the original pass or from either re-ride. The driver shall be warned that the driving is not acceptable, and that he may be replaced.

The possibility to increase the above re-ride number to 3 were discussed but not approved.

Rule 10 - Ramp declaration

Remove the ramp declaration requirement as it is no longer necessary – Homologator must measure and certify each ramp before is used at any competitions.

Rule 10.06 - Jump 1st segment

Rule 10.06: Boat Timing & Re-ride Situations

For Record Capability, Ranking List and Elite events the published 3 segment times should be used when:

Open Men/U21 Men speed 57 above 60 metres

Open Women/U21 Women speed 54 above 45 metres

U17 Men speed 51 above 38 metres

U17 Women speed 51 above 38 metres

For distances below these specifications, the 1st segment tolerance check is not required. Segments "1+2" and 3 must be in tolerance in all cases except as otherwise noted in the appropriate Jump Timing Re-ride Chart.

Added:

Segment 1 is NOT used for any other age division (u14, over 35 and so on...)

The above minimum distances will be re-discussed.

On the Zoom meeting of January 18, LG presented his proposal.

LG suggested using as a minimum distance the average of the distances obtained by the 30th classified in the last 3 open worlds and the average of the distances obtained by the 20th classified in the last 3 Under 17 world championships. In this way for the athletes of the best series and those that compete for the title the same rule applies.

The proposal was discussed and approved as shown below:

Open/U-21 Men speed 57 above 60 metres

Open/U-21 Women speed 54 above 38 metres

U17 Boys speed 51 above 42 metres

U17 Girls speed 51 above 30 metres

Approved

Rule 12.02: Re-ride Criteria

Proposed change :

If a skier's turn in jump or slalom or tricks is interrupted between passes due to the above listed circumstances or due to a weather hold initiated by the Judges, and the interruption causes a delay exceeding ten (10) minutes, then the skier shall be allowed a free warm up pass/ jump with a protected score on passes already completed. The warm-up pass is not scored although the skier will be given the distance in the case of jump. The timing for the 10 minutes shall be from the moment the skiing is placed on hold or the boat is stopped (whichever comes first).

Approved

rule 14.04 - Driver selection

The Skier surveys conducted by Dana Garcia were discussed. The WSC believe that it is a useful tool but cannot be the only consideration when appointing Drivers. Agreed that the subject of Driver selection needs further thought and consideration.

This Item has been re-discussed at the January 18 WSC Zoom meeting. Please refer to those minutes for more details.

Rule 14.13 - Skier Eligibility

Proposed to remove the last paragraph as EMS provides the necessary information.

14.13:Skier Eligibility

A Federation may select its team in any manner it desires however, each team member must be a citizen of the Federation represented, or otherwise qualify to ski as a representative of that

Federation in accordance with IWWF policy. In case of doubt as to the nationality of a competitor, the Judges normally will refer to his passport. If a skier does not have a passport from the country for which he is skiing, he must prove qualification to ski for that country under IWWF policy. Each Federation shall certify to the Judges that all members of its team meet these qualification requirements.

Skiers who have already skied for one country in a previous World or Confederation Championships may not change countries without consulting and fulfilling the rules laid out in the IWWF Rules of Eligibility.

~~Team Representatives must present the passports or National Identity Cards to the Chief Scorer for checking eligibility before the start of the Competition.~~

WTC believe that with the introduction of EMS where a skier can only have one ID no matter how many nationalities he belongs to, and that changing nationality is only possible as per the IWWF World Eligibility Rules this last paragraph is no longer necessary.

Changes Approved

rule 14.12 - Entry Administration

as a skier can **only be entered** in the EMS in one position (TM, IP, WC or R) propose to add the paragraph in red.

14.12: Entry and Administration

Each Federation must register the list of skiers it wishes to enter through the IWWF Event Management System (EMS) not later than 60 days before the scheduled start of the first competition day of the IWWF World Championships. Any Federation not meeting this requirement will not be allowed to compete until they have paid a fine of US\$200 to the IWWF. This does not include those skiers who may additionally qualify through the Weekly Ranking List or Pro Ranking. An entry is considered complete when the Skier's name is registered in EMS and the full Entry Fee Payment has been received. The entry fee payment must follow the process described in the Competition Bulletins.

As far as possible the events that each skier will participate in, including their chosen ramp ratio, will be completed in EMS.

Official reserves should also be listed. There is no limit on the number of official reserves for each team and no entry fee is required for these skiers.

Any skier entered as a Wild Card or Individual is also to be considered as a TEAM reserve.

Any Federation not meeting this requirement will not be allowed to compete until the Federation pays a fine to the IWWF of US\$10 per skier per day after the 60 days deadline, for each skier not officially registered.

Approved

Rule 15.04 – Overall

Clarification:

15.04: Overall and Team Competition

a) Qualification for Individual Overall Scoring

To qualify for overall, a competitor must ski in slalom, tricks and jump.

A skier to be qualified in Overall needs to ski in all 3 event and will still be considered for the Overall if he obtains a score of 0 (zero) points.

Rule 24 – Ranking

Explain what “one increment” mean

Rule 24 – World Ranking List

The World Ranking List is a list of the best men and women

If a performance in a Rankings List competition exceeds the current World Record, it will be placed on the rankings list as one increment below the current record. If a record score is made in a Record Capability competition but is subsequently rejected, it will be placed on the rankings list as one increment below the current record. **(Slalom 0.25 or 0.50 buoy, Tricks 10 points, Jump 0.1m)**

Approved

Rule 23

The revised rule 23 was discussed. A few updates have been made from the original one. Please see below the final approved documents.

Rule 23 revised as per December 19

Rule 23 – Records**23.01:What Records are Recognized**

The IWWF shall recognise World records for tricks points, slalom performances, jump distances and overall points for the Open Men's and Women's divisions, Under 21 Men's and Women's and for Under 17 Boy's and Girl's divisions. The Confederations may, in addition, recognise Confederation records under the same standards provided for World records. The Confederations may, however, recognise records for divisions other than those recognised by the IWWF. The Confederation in which a record may be recognised shall be determined by the nationality of the skier rather than the location of the competition.

23.02:Competitions where Records may be set

Records may be set only at competitions homologated as a Record Capability Event by the IWWF, a Confederation, a Federation, or the World Waterski Council.

In any one competition, no more than four rounds are eligible for setting records.

23.03:Jump Records

A jump shall be a new record if it exceeds the current official record. If the distance equals the established record, the skier will become co-holder of the established record.

23.04:Slalom Records

A slalom performance shall be a new record if it exceeds by 1/4 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record.

The Rope (handle and rope) shall be measured by the Jetty Marshall under the responsibility of the Homologator 15 minutes after the skier skis. Should the rope be out of tolerance, then it shall be retained by the competition officials, at normal room temperature, and retested after a one-hour relaxation period. If the rope remains out of tolerance after the one-hour period, the record gets denied but the score stands.

23.05:Tricks Records

A trick performance shall be a new record if it exceeds the current official record. If the score is equalled, the skier will become co-holder of the established record.

23.06:Open Division Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Men – Joel Poland	2@10.25	11620	69.00m	2660.12
Women – Berdnikava Natalia	3@11.25	9740	58.00m	2581.12

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart.

Overall Event Record Base Scores

	Slalom	Trick	Jump
Men	2.50@9.75 (50.5)	12570	77.4m
Women	4.50@10.25 (46.5)	11260	60.3m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwsf.com/rules/OverallRecordCalculator.htm>

Men Overall Record Calculator - Current Record 2660.12

Event	Base	Score
Slalom	2.50@9.75 (50.5)	
Tricks	12570	
Jump	77.4m	
Overall		

Women Overall Record Calculator Current Record 2581.12

Event	Base	Score
Slalom	4.50@10.25 (46.5)	
Tricks	11260	
Jump	60.3m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

An overall record cannot be approved until such time as each individual event element is approved if that individual element is a record.

23.07:Under 21 Record

Current Under-21 records

	Men	Women
Slalom	3@10.25	2@10.25
Tricks	12220	10790
Jump	69.00m	54.60m

23.08:Under 21 Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Men – Joel Poland	1@10.25	11030	65.7m	2534.20
Women – Brooke Baldwin	2@10.75	7920	49.3m	2304.03

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart:

Under-21 Overall Event Record Base Scores

	Slalom	Trick	Jump
Men	2.50@9.75 (50.5)	12570	77.4m
Women	4.50@10.25 (46.5)	11260	60.3m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwsf.com/rules/OverallRecordCalculator.htm>

Under-21 Men Overall Record Calculator - Current Record 2534.20

Event	Base	Score
Slalom	2.50@9.75 (50.5)	
Tricks	12570	
Jump	77.4m	
Overall		

Under-21 Women Overall Record Calculator Current Record 2304.03

Event	Base	Score
Slalom	4.50@10.25 (46.5)	
Tricks	11260	
Jump	60.3m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

An overall record cannot be approved until such time as each individual event element is approved if that individual element is a record.

23.09:Under 17 Records

Current Under 17 records

	Boys	Girls
Slalom	4.00@10.25	2@10.75
Tricks	12050	10440
Jump	59.1m	46.0m

23.10:Under 17 Division Overall Records

Current World Overall Record Event Scores

	Slalom	Trick	Jump	Overall Record
Boys – Martin Labra	1@10.75	11460	51.5m	2647.57
Girls – Brooke Baldwin	2@10.75	8670	43.5m	2754.70

An overall performance shall be a new record if it exceeds by 0.01 point or more the current official record. If the score is equalled, the skier will become co-holder of the established record. The scoring will be based on the scores noted in the following chart.

Under-17 Overall Event Record Base Scores

	Slalom	Trick	Jump
Boys	1.00@10.25 (55)	12050	59.1m
Girls	2.00@10.75 (50)	10440	46.0m

Use these forms to calculate a potential new record.

The online forms are at: <http://www.iwsf.com/rules/OverallRecordCalculator.htm>

Under-17 Boys Overall Record Calculator - Current Record 2647.57

Event	Base	Score
Slalom	1.00@10.25 (55)	
Tricks	12050	
Jump	59.1m	
Overall		

Under-17 Girls Overall Record Calculator Current Record 2754.70

Event	Base	Score
Slalom	2.00@10.75 (50)	
Tricks	10440	
Jump	46.0m	
Overall		

Overall Records may be set in competitions where there is no overall competition as long as there are distinct rounds of each event, and the performances are all in the same round.

For an Overall Record, each discipline is treated as a separate record - with trick review, slalom review and jump review by the applicable event judges on the site. For the overall record, the three event applications shall be submitted for Waterski Council approval.

An overall record cannot be approved until such time as each individual event element is approved if that individual element is in itself a record.

23.11:Ties in an Event

In the event of equal performances in a round of a competition event, the record shall be co-held no matter which skier may be the ultimate winner of the event.

23.12:Record Review Process

Specifications of equipment, courses and measuring devices shall be set by the Official IWWF Record Forms, which must be completed and certified by the Chief Judge and other required officials.

a) Slalom.

The following items need to be submitted:

- Record Application Form (all parts must be completed)
- Survey Files (homologation files)
- End Course Video or BPMS Data for the record pass and the preceding passes
- Video from the Boat for the record pass and the preceding passes

Approval Process

To be considered, a record performance must include all the items above. If any are missing the record will not be processed.

When all items are received the following procedure will be applied:

- Boat Path Verification – BPMS data and/or end course video (last 2 passes) will be reviewed by three people appointed by the Chairman of the World Waterski Council. The BPMS data/video will be examined to verify that the path is in accordance with rule 8.15. For World Records, the maximum individual buoy deviation cannot exceed 20cm.
- Buoys count - Five Judges, one from each of the five Confederations, will be appointed to review boat/designated video (buoys video). The decision on each buoy count is the decision of the majority of the five judges.

b) Tricks.

The following items need to be submitted:

- Record form (all parts must be completed)
- Original video from the Boat
- Judges' pink sheets signed
- Scoring Calculation sheet

Approval Process

To be considered, a record performance, must include all the above items. If any are missing the record will not be processed.

When all items are received the following procedure will be applied:

- Time Verification - Time will be verified by 3 people appointed by the Chairman of the World Waterski Council.
- Record Review Panel - Boat video will be per the rule's requirements. The video will be viewed in regular speed by the Review Judges for record verification. Although the record verification cannot change the score recorded in the competition, the score may be changed for the record submission. The video will be sent with the record forms and the "Pink Sheets" to the chairman of the World Waterski Council.
- Tricks Call - A set of Judges will be appointed to review and call the video as defined below:

- * If the original panel was 3 Judges, the convened panel will be 8 more Judges, as illustrated in the table below. These 8 convened Judges calls will be combined with the 3 competition Judges calls to give 11 sheets. Each trick must have 6 Judges give it credit to pass.
- * If the original panel was 5 Judges, the convened panel will be 16 more Judges, as illustrated in the below table. These 16 convened Judges calls will be combined with the 5 competition judges calls to give 21 sheets. Each trick must have 11 Judges give it credit to pass.

Panel - 3 Judges	Record in PanAm			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	2	3	3	11
	Record in Europe/Africa			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	3	2	3	11
	Record in Asia/Oceania			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	3	3	2	11
Panel - 5 Judges	Record in PanAm			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	4	6	6	21
	Record in Europe/Africa			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	6	4	6	21
	Record in Asia/Oceania			
	Judges from PanAm	Judges from Europe/Africa	Judges from Asia/Oceania	
	6	6	4	21

c) Jump.

The following items need to be submitted:

- Record form (all parts must be completed)
- Survey files of the jump course and the grid.
- It is recommended that a copy of the video used to calculate the jump distance is submitted.
- A digital picture of the record jump.
- A digital picture of the video grid box setup.
- All configuration and setup files used appropriate for the system being used to allow independent verification.

Approval Process

To be considered, a record performance, must include all the above items. If any are missing the record will not be processed.

When all items are received the following procedure will be applied:

- Jump Distance Verification - The Jump Distance will be verified by three people appointed by the Chairman of the World Waterski Council. The official distance shall be the longest distance possible from the majority of this group.

These are the allowed Jump measurement systems: Added to rule 25.07

System	Description
Corson	Photogrammetric based system requiring one camera and grid buoys developed by Bob Corson (USA)
Olaf Boettcher	Two camera trigonometric system developed by Olaf Boettcher (GER)
Japan	Three camera trigonometric system developed in Japan
Felix Loreto	Two camera trigonometric system developed by Felix Loreto (PER)
SplashEye	Photogrammetric based system requiring one camera and grid buoys developed by Donal Connolly (IRL)
VTM	Photogrammetric based system requiring one camera and grid buoys developed by Chip Shand (USA).

23.13: Record Administration

- a) World Records may only be set at competitions sanctioned by the IWWF, a Confederation, or an affiliated National Federation **per IWWF Rules for Record Capability – Class R.**
- b) At competitions where World Records may be set, the Competition Homologator shall be responsible for supplying the Chief Judge with the technical information required by the IWWF record application form.
- c) ~~The Homologator, under supervision of the Chief Judge, shall be responsible for the completion of the required application. Within 7 days, the Homologator will notify the skier's Confederation or National Federation, and the Chairman of the IWWF Waterski Council (World Record Only). Within 15 days, the completed record application must be submitted to the skier's National Federation, the Chair of the Confederation Waterski Council where the record was performed; and to the Chair of the World Waterski Council (World Record Only). The Record Application Form may be generated from the scoring program and supplemented with any additional required information. Under no circumstances will a record application be considered unless the appropriate record application forms are completed, and all rules conformed to within 15 days.~~
- d) Upon receipt of the form and the necessary support documentation, the Chairman of the World Waterski Council will either approve or disapprove the application and will advise the World Waterski Council members and the IWWF President of his decision.
- e) The record will then be official, pending final ratification by the World Waterski Council.
- f) The World Waterski Council must advise the Chairman of their ratification or disapproval of his ruling within 30 days of their receipt of the information.
- g) Records shall be ratified if approved by a two-thirds majority of the World Waterski Council. There shall be no proxy voting.
- h) A record can only be approved if the performance was achieved during a sanctioned competition. Record performances achieved during a run-off of a tie are not acceptable.
- i) Should the Competition Homologator and/or Chief Judge fail in the responsibilities of these duties, sanction shall be determined and levied by the IWWF Executive Board following receipt of a report by the Confederation Waterski Council Chairman.
- j) In the unusual instance where a potential World Record performance occurred, and it was intentionally not applied for as a World Record, the Competition Homologator, Chief Judge, skier, and Federation may be subject to disciplinary action as determined by the World Waterski Council and the IWWF Executive Board.

Approved

Rule 23 - Recognised Records

The possibility of recognising the 35+ age divisions records was discussed.

The Council does not believe it is possible, at the moment, to add new Divisional records, but proposes an alternative of maintaining for them a list of best performances. CM will ask Bob if he is willing to do it.

Disapproved Record

There has been a request to keep track of the disapproved Records (for one year) WSC agreed. MC will ask Bob if he can do it.

Record Application Form 2022

The revised Record application Form proposed by the Technical Committee has been discussed and approved.

It's Skier responsibility to advise the Chief Judge and the Homologator, before the end of the competition, if a National or Regional Record has been set, and ask them to submit the Form.

Note: If at a “R” Competition the performances could be a potential record, the Chief Judge and the Homologator should submit it to the WWSC for the review.

If possible, when creating the form the system should “advise” (send an email) to the WSC President for information.

TRICK RECORD DATA

Position: Scorer: _____ Rating: _____
 Name (Event Officials): _____
 Driver: _____
 Judge: _____
 Judge: _____
 Judge: _____
 Judge: _____
 Timer: _____
 Timer: _____

Boat Info: Make & Model: _____ Year: _____
 Speed Control: Manufacturer: _____ Software Ver: _____

Score: _____

	FIRST PASS	SECOND PASS
Trick	Value	Value
T1		
T2		
T3		
T4		
T5		
T6		
T7		
T8		
T9		
T10		
T11		
T12		
T13		
T14		
T15		
T16		
T17		
T18		
T19		
T20		
TOTAL PASS 1	0	0
TOTAL PASS 2	0	0
TOTALS		

First pass: 0
 Second pass: 0
 SCORE: 0

JUMP RECORD DATA

Position: Scorer: _____ Rating: _____
 Name (Event Official): _____
 Boat Judge: _____
 Driver: _____
 Judge: _____
 Judge: _____
 Video Judge: _____
 Video Judge: _____

Boat Info: Speed Control: _____
 Make & Model: _____ Manufacturer: _____
 Year: _____ Software Ver: _____

SCORE (Data from scoring program)

Distance: _____ Meters _____ Feet (USA)
 Jump Ratio: _____ MPH _____ MPH (USA)
 Boat Speed: _____

Timing (in 1/10 seconds): 1st Segment: _____ 2nd Seg: _____ 3rd Seg: _____
 2 segment (if 0) (Enter this first or sec)

Boat Path Deviation Data: Deviation recorded from SPLT
 Boat Path Selected: _____
 Deviation: _____

ST: _____ MT: _____ ET: _____

The Grid Setup and Distance has been **REMOVED** by Chief Judge and Normalized:
 OK: _____

Video Jump Grid Measurement Setup (for WORLD RECORD ONLY)
 Video Measurement Program: _____

Test Buoy: _____
 Coordinates: X: _____ Y: _____
 Video System: _____

Grid System: _____
 coordinates: X: _____ Y: _____
 Trigonometric System coordinates: X: _____ Y: _____

Upper Left: _____
 Upper Right: _____
 Lower Left: _____
 Lower Right: _____

Left Setup: _____
 Right Setup: _____
 Near CAM: _____
 Far CAM: _____

EQUIP and RAMP POST VERIFIED (for WORLD RECORD ONLY):
 Measure the height and length:
 Left side: Height: _____ Length: _____
 Right side: Height: _____ Length: _____
 Width of ramp: _____ Top: _____
 Rope and Handle Length: _____

Ratio: 0/0
 Ratio: 0/0

CHECKLIST

The following items are to be collected and submitted

SLALOM RECORD

- Record Form Submitted YES
- Dossier/Survey submitted w World Recor World Record ONLY
- BPMS Data (last two passes) World Record ONLY
- Video From Boat (last two passes) World Record ONLY

TRICK RECORD

- Record Form Submitted YES
- Video from Boat
- Trick Judges Sheet (Pink sheet)
- Scoring Calculation sheet

JUMP RECORD

- Record Form Submitted YES
- Dossier/Survey submitted w World Recor World Record ONLY
- PIC Grid calm water World Record ONLY
- PIC Grid skier landing World Record ONLY
- IPT file (grid buoy) World Record ONLY
- IPT file (check buoy) World Record ONLY
- Video (jump) World Record ONLY

COMMENTS

Note: Add any additional comments, explanation or data that will be of assistance in the independent verification of this pending record performance.

Homologation Changes

Slalom- move art. 8.20 to 25.

~~8.20: Homologation Guidelines – Slalom~~

- ~~a) The slalom course shall be checked by survey. (Refer to rule **25.08**).~~
- ~~b) All skier buoys and end gates must be measured (diameter and height) for record submission.~~
- ~~c) The ropes should be stretched by use in practice or on land against a fixed object to ensure tightness of the splices before measurement. When used in practice, the ropes should be used in rotation to give them equal use.~~
- ~~d) Personal handles shall be measured by the Jetty Marshall under the responsibility of the Homologator, immediately after the skier skis. Should the handle be out of tolerance following a skier return to the dock, the skier's performance in that round is zero.~~
- ~~e) Buoys for major or titled competitions should be new so the colours are distinct and clearly visible.~~
- ~~f) The Homologator should record static pictures of the slalom end course for later reference if required.~~

Tricks - move art. 9.25 to 25.

~~9.25: Homologation Guidelines – Tricks~~

~~A video with a free running clock embedded on the screen with a display of at least. 1 second resolution is recommended.~~

~~Video file submitted as per (**23.12**).~~

Jump – move art. 10.18 to 25.

~~10.18: Homologation Guidelines – Jump~~

- ~~a) The jump course shall be checked by survey. (refer to rule **25.08**).~~
- ~~b) Personal rope and handle shall be measured by the dock starter under the responsibility of the Homologator, immediately before the skier skis. The Chief Judge may require skier rope and handle to be re-measured immediately after use. Should the rope and handle be out of tolerance following a skier return to the dock, the skier's performance in that round is deleted.~~
- ~~c) Two test buoys must be placed at approximately 40m and 60m jump distances and their exact location as measured by survey and by the video jump system must be recorded on the dossier. The buoys must be independent of the video jump system (i.e. not used as reference buoys by the system).~~
- ~~d) The jump ramp must be waxed. The wax used must have been previously used and tested and found to be appropriate for the use.~~
- ~~e) Jump check buoys should be a different colour than the grid/set buoys and different than reference buoys~~
- ~~f) Jump reference buoys should be in a sequence of different colours so that no two adjacent reference buoys are the same colour i.e. red, yellow, green, red, yellow....~~
- ~~g) The Homologator should record static pictures of the jump end course and pictures of the jump measurement grids for later reference if required.~~
- ~~h) **Jump boat guides buoys (spherical/cylindrical/rectangular) must be as specified in rule 8.07.**~~

Rule 25 – General Homologation Guidelines

25.01: General Homologation Guidelines:

- a) The Homologator must complete the applicable step(s) of the Electronic Dossier checklist and must verify that the homologation requirements have been satisfied prior to the event.
- b) The Homologator must be present during the entire competition.
- c) The Homologator must ensure that all homologation requirements are maintained throughout the tournament.
- d) ~~If a competition is at the same site on subsequent weekends, the Homologator may decide not to carry out another full homologation but make enough checks to satisfy himself that nothing has changed.~~ **For the duration and the validity of an homologations refer to art. 25.02 letter “a” and art. 25.04 letter “a”**
- e) ~~If on sequential weekends another complete survey is not required, the Homologator shall ensure no changes were made.~~ The survey date and re-verification data shall be documented in the Homologation Dossier.
- d) It is the duty of each skier to report to the Chief Judge during the competition if he believes the homologation rules are not being followed or adhered to. The issue will be addressed at the competition.
- e) The completed Electronic Dossier checklist shall be submitted within 14 days by uploading it to www.iwwfed.com via the Submit Homologation Dossier function.
- f) For World and Confederation Titled Events the Homologation Noticed must be posted before the competition starts.

25.02: Slalom Homologation Guidelines:

a) Slalom Survey

- 1) Survey methodology and equipment – See technical specification (25.05).
- 2) Individual Anchor Slalom Courses must be surveyed (**full survey**) **within 90 days** of the event and **validated** (G1– G4 and S1 – S6) by the Homologator **within 10 days of the event**. It is the responsibility of the Homologator to ensure that the buoys have not moved prior to the event. If there is any doubt the Homologator should make another full survey prior to the event.
- 3) A floating cable slalom course (approved single line, four-line, cross course) must be surveyed (**full survey**) **within 10 days** of the event and **validated** (G1–G4 and S1–S6) by the Homologator **within 3 days of the event**. It is the responsibility of the Homologator to ensure that the buoys have not moved prior to the event. If there is any doubt the Homologator should make another full survey prior to the event.
- 4) The centreline is a line from the middle of the entry gates to the middle of the exit gates.
- 5) Each boat guide (B1...B12) has a width (distance from centerline/axis) tolerance of +/-11.5 cm, but the left side (B2,B4,B6,B8,B10,B12) and the right side (B1,B3,B5,B7,B9,B11) must each be visually straight. To ensure that each side is straight, it is recommended that each individual boat guide distance/width from the centreline/axis (1.15) is within 4cm of the average boat guide distance/width for that side.
(Example: Axis-B1=1.15, B3=1.16, B5=1.12, B7=1.18, B9=1.15, B11=1.17; Avg.=1.155 (Meets requirements).
- 6) To ensure that the visual centreline (axis), as seen from the boat guides, is equal to the calculated centreline (axis), the difference between the average boat guide width on each side should not be more than 4cm.
(Example: Axis B1-B11 Avg =1.155; Axis B2 -B12 Avg=1.20 (Does not meet requirement).
- 7) Reference 8.17 for Slalom Course Tolerance.

b) Slalom RTK-GPS

- 1) RTK-GPS System- See technical specification (25.08).
- 2) Setup and Verification of BPMS systems by the Homologator or their designee shall take place - before the competition starts - per the manufacturer’s recommendations and these guidelines.
- 3) The Homologator must establish the centreline by plotting the entry and exit gates (G1,G2,G3,G4) using the RTK-GPS Antenna.
- 4) The Homologator must validate the setup (boat path centreline) with either method below:

- i. Validate using BPMS system. To validate using BPMS, the Homologator must plot the gates (G1,G2,G3,G4) and all Slalom buoys (S1,S2,S3,S4,S5,S6) using the RTK-GPS Antenna. The system will perform a self-check and validation. This will ensure that the centerline from the entry to exit gates is within tolerances for centreline, diagonals, and average width of the Slalom buoys (S1,S2,S3,S4,S5,S6).
 - ii. Validate by comparing the BPMS measurements to the Official Survey is RECOMMENDED. The difference between the BPMS measurements to the Official Survey measurements must not exceed the following tolerances:
 - * Centreline (Axe) – G1 / G2: +/- 3cm.
 - * Centreline (Axe) – G3 / G4: +/- 3cm.
 - * G1 – G3: +/- 10cm.
 - * G3 – G4: +/- 10cm.
 - * Centreline (Axe) – S1 / S6: +/- 4cm
- 5) The Homologator and driver shall verify the centreline by driving through the course on the right-hand side, in each direction, and verify that the display deviations in each direction are similar.
 - 6) During the competition, the Homologator may need to re-validate as necessary depending on conditions.
 - 7) For RTK-GPS, the GPS antenna must be attached to the pylon but may be offset from the pylon based on the manufacturer's recommendations.
 - 8) The Homologator or designee will measure any antenna offset and validate that it is correctly entered in the system. The RTK-GPS Settings can only be changed under the direct supervision of the Homologator or designee.
 - 9) The RTK-GPS Survey data for BPMS must be included in the homologation dossier.
 - 10) The BPMS Data must be submitted to the Federation.

c) Slalom General

- 1) All skier buoys and end gates must be verified (diameter and height) (8.07).
- 2) All boat guides must be verified (diameter and height) (8.07).
- 3) All boat guides must be visually verified straight.
- 4) Buoys should be bright, distinct, and clearly visible.
- 5) Cameras and video capture devices meets the requirements (25.06).
- 6) The ropes should be stretched or used in practice.
- 7) Ropes and tournament handles must be inspected and measured (5.09).
- 8) Personal handles shall be measured by the Jetty Marshall under the responsibility of the Homologator, immediately after the skier skis (8.01).
- 9) When using Video Base BPMS, the Homologator should record static pictures of the slalom end course for later reference if required.
- 10) Ensure any additional boat weight meets requirements (5.06).
- 11) Ensure Speed Control System meets technical requirements (5.03, 5.04, 5.07).
- 12) Records to be submitted using the IWWF Record application and data/video submitted (Rule 23).

25.03: Tricks Homologation Guidelines:

- a) Verify Trick Course meets requirements (9.02,9.24).
- b) Establish a place to measure all trick rope releases (9.13).
- c) Ensure proper additional skier weight is available (9.14).
- d) Trick Timer Program - video with a free running clock embedded on the screen with a display of at least 1/10 second resolution is recommended.
- e) Verify that the video input (live/captured video) and trick timer program is correct (20 seconds) by comparing it to a videoing (live/input) electronic timer (digital clock).
- f) Ensure Speed Control meets technical requirements (5.03, 5.04, 5.07).
- g) Records to be submitted using the IWWF Record application and data/video submitted (Rule 23).

25.04: Jump Homologation Guidelines:

a) Jump Survey

- 1) Survey methodology and equipment – See technical specification (25.05).
- 2) A jump course must be surveyed (**full survey**) **within 10 days** of the event and **validated** by the Homologator **within 3 days of the event**. It is the responsibility of the Homologator to ensure that the buoys have not moved prior to the event. If there is any doubt, the Homologator should make another full survey.
- 3) The Jump axis is a straight line, passing through the ramp centre, which is parallel to the line of buoys 15ST-15MT.
- 4) The boat path centreline is a line from the middle of the 15ST/19ST gates to the middle of the 15ET/19ET gates.
- 5) It is recommended that the 4m buoy width (15ST-19ST, 15MT-19MT, 15ET-19ET, and 15EC-19EC) is between 3.95m and 4.05m.
- 6) Reference 10.16 for Jump Course Tolerance.

b) Jump RTK-GPS

- 1) RTK-GPS System- See technical specification (25.08).
- 2) Setup and Verification of BPMS systems by the Homologator or their designee shall take place - before the competition starts - per the manufacturer's recommendations and these guidelines.
- 3) The Homologator must establish the centerline by plotting the 15ST, 19ST, 15ET, 19ET and 180m buoys using the RTK-GPS Antenna.
- 4) The boat path centreline is a line from the middle of the 15ST/19ST gates to the middle of the 15ET/19ET gates.
- 5) The Homologator must validate the setup (boat path centreline) with either method below:
 - i. Validate using RTK-GPS system; the Homologator must plot the 15ST, 19ST, 15ET, 19ET and the 180m buoys using the RTK-GPS Antenna. The system will perform a self-check and validation.
 - ii. Validate by comparing the RTK-GPS measurements to the Official Survey is RECOMMENDED. The difference between RTK-GPS Setup and the Official Survey must not exceed the following tolerances:
 - * Width between 15ST-19ST: +/- 4cm.
 - * Width between 15ET-19ET: +/- 4cm.
 - * Distance between 15ST-15ET: +/- 10cm.
 - * Distance between 19ST-19ET: +/- 10cm.
 - * Centreline (Axe) – 180m: +/- 20cm.
- 6) The Homologator and driver shall verify the boat path centreline by driving through the course split +2 and a split -2 and verify that the displayed deviations are correct.
- 7) During the competition, the Homologator may need to re-validate as necessary depending on conditions.
- 8) For RTK-GPS, the GPS antenna must be attached to the pylon but may be offset from the pylon based on the manufacturer's recommendations.
- 9) The Homologator or designee will measure any antenna offset and validate that it is correctly entered in the system. The RTK-GPS Settings can only be changed under the direct supervision of the Homologator or designee.
- 10) The RTK-GPS Survey data for BPMS must be included in the homologation dossier.
- 11) The BPMS Data must be submitted to the Federation.

c) Jump General

- 1) All boat guides must be verified (diameter and height) (8.07).
- 2) All boat guides must be visually verified straight.
- 3) Buoys should be bright, distinct, and clearly visible.

- 4) Check buoy must be placed approximately in the middle of the grid outside the 8 m landing zone. The check buoys must be independent of the video jump grid (reference) buoys in that grid.
- 5) Check buoys should be a different colour than the grid marker buoys.
- 6) No buoys/obstructions shall be within 8m of landing zone (safety).
- 7) The jump ramp must be waxed.
- 8) Jump surface must be inspected to ensure no loose screws/loose panels.
- 9) Jump ramp must be inspected to ensure jump is secured (anchor lines, etc).
- 10) Jump ramp must have water on surface during the event.
- 11) Video Jump Measurement System (VJMS) - Visually check the placement marker for the grid (reference) buoy(s) and the check buoy. Revalidate as necessary.
- 12) Video Jump Measurement System (VJMS) Homologation Level - use the "System Self-Check" Homologation function to verify Class R $\leq 0.1\text{m}$ (10cm) or Class L $\leq 0.15\text{m}$ (15cm).
- 13) Video Jump Measurement System (VJMS) – Ensure video backup is available for immediate playback.
- 14) The Homologator should record static pictures of the jump measurement grids and EC Video (if applicable) for later reference (if required.).
- ~~15) Personal ropes and handles must be measured by the Jetty Marshall, under the responsibility of the Homologator, before the skier skis (10.18).~~ **move to rule 8**
- 15) Ensure Speed Control meets technical requirements (5.03, 5.04, 5.07).
- 16) Records to be submitted using the IWWF Record application and data/video submitted (Rule 23).

25.05: Survey Methodology and Technical Requirements:

- a) The acceptable methods to verify a course for L or R Competitions are:
 - 1) A three-point survey (instrument accuracy 20 seconds or better).
 - 2) A one-point with laser range finder survey (instrument accuracy 20 seconds or better).
 - 3) An approved RTK-GPS system.
- b) For a one-point survey, angle only spot checks from a second position are recommended.
- c) For a three-point survey, the maximum size acceptable triangle is one with an inscribed circle diameter of 10cm. If the diameter is greater than 10cm, one vertex may be used if it agrees with an alignment sighting.

25.06: Video Specification Requirements (8.13, 8.15, 10.10):

- a) The camera and the video recording equipment must be set up and have sufficient quality for judging during the event and for necessary review after the event. Homologators must also check to ensure that the correct date and time is set on the DVR/computer each day.
- b) Camera and Video Recording Quality**
 - 1) Camera and the video recording equipment must produce a recording with a minimum resolution of 704 x 480 (Aspect Ratio 4x3).
Minimum Recorded Framerate is 25 fps for PAL and 30 fps for NTSC, (Jump, may use a lower fps rate). Homologators must confirm that when recording on a DVR/computer, that each recording channel meets the minimum recording resolution requirement. Note: Some recoding equipment "shares" the total resolution, resulting in a lower resolution per channel.
 - 2) Slalom Boat Video in Class R (World Records) - the recommended boat video capture at a minimum resolution 720p at 60fps (May be a separate camera from the boat camera which is transmitted to the shore judge).
 - 3) The video submitted to the Confederation for review must be submitted in an AVI/MPEG-4/MP4/MOV format.
- c) End Course Camera Zoom**
 - 1) Minimum Zoom
 - * **Slalom** - Far Entry Gates minimum screen width ratio of 20% (recommended 30%).
 - * **Jump** - ST buoys minimum screen width ratio of 20%.
 - 2) Digital Zoom may be used if the camera is equipped with sufficient resolution such that (resolution/digital zoom necessary to achieve minimum screen width ratio) is greater than the Minimum Acceptable Resolution (704 x 480).
NOT ACCEPTABLE EXAMPLE:
 - * Camera resolution 1080p (1920x1080).

- * Digital Zoom used: 3x.
- * Resulting End Course Resolution: 640x360 – Does not meet requirement.

ACCEPTABLE EXAMPLE:

- * Camera resolution 4K (3840x2160).
- * Digital Zoom used: 4x.
- * Resulting End Course Resolution: 960x540 – Meets requirement.

- d) The End course camera must be located on the centreline of the course. It is recommended that the Homologator ensures that the camera placement is within 10cm of the actual centreline.
- e) Required End Course Videos must be submitted to the appropriate Confederation as soon as possible after the competition by any of the means allowed by the Confederation. Only the end course video shall be submitted. The responsibility of the Homologator for the competition does not end until the videos have been received.
- f) End Course Video and Boat Setup: The position of the centre and maximum deviation lines of the boat shall be indicated by placing visible marks or vertical posts on the windshield showing the 20cm (slalom) or 40cm (jump) deviation lines. Marks shall be placed on the windshield that are visible in the end-course video camera (visible from both directions). The marks shall be placed 20cm (slalom) or 40cm (jump) from the centre of the windshield on both sides of the centre to aid in the determination of the 20 cm deviation. If the boat path deviation is determined by placing a string or line on the end course video, the end course camera must be exactly in the centre and exactly level so that the string or line is in the middle of both the entry and exit gates (slalom) or ST and ET gates (jump).

25.07: Video Jump Measurement System (VJMS) Specification:

a) Approved Video Jump Measurement System(s)

- 1) All Video Jump Measurement System (VJMS) must be approved by the IWWF Technical Control Committee. The World Waterski Council may approve systems based on video technology provided that proper verification and proof is given to the World Waterski Council at least 60 days before the proposed use.
- 2) Approved Video Jump Measurement System:
 - * **Splasheye:** Photogrammetric based system requiring one camera and grid buoys developed by Donal Connolly (IRL)
 - * **Video Tape Measure:** Photogrammetric based system requiring one camera and grid buoys developed by Chip Shand (USA).
 - * **Boettcher:** Two camera trigonometric system developed by Olaf Boettcher (GER)
 - * **Loreto:** Two camera trigonometric system developed by Felix Loreto (PER)
 - * **Corson:** Photogrammetric based system requiring one camera and grid buoys developed by Bob Corson (USA).
 - * **Japan:** Three camera trigonometric system developed in Japan

b) Video Jump Measurement System (VJMS) Technical Specification

- 1) The VJMS will calculate the jump distance from the point at the water line directly below the centre of the top edge of the ramp to the point-of-impact in the water closest to the ramp (first point-of-impact) plus 2.1m. The point-of-impact is defined as the first point on the water surface closest to the ramp that is touched by the skier when he lands.
Note: The additional 2.1m is an adjust from older systems where the jump distance was calculated to the plume.
- 2) The VJMS setup must be configured so the maximum differential in jump distances which would result from one-pixel movements on the video screen, in either the horizontal or vertical direction should not exceed the following values:
 - * Class "R" events 10 cm.
 - * Class "L" events 15 cm.
- 3) Any existing video setup can be evaluated against this standard by testing actual movements of the grid marker buoy (reference point) and landing point markers and observing the reported changes in the calculated landing location which results from such movements between adjacent pixels. Such manual evaluations need to be systematically conducted throughout the expected operating range of the setup.

25.08: BPMS System Technical Requirements:

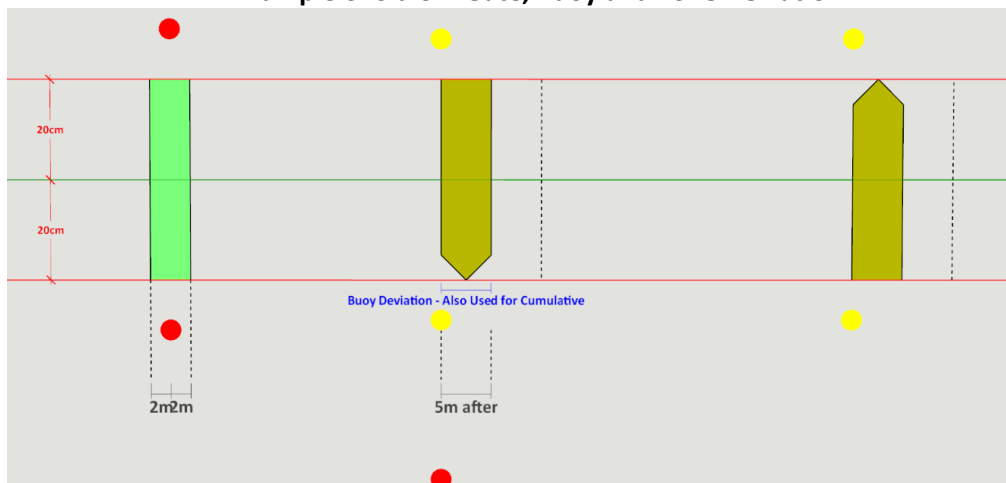
a) Approved Boat Path Monitor System (BPMS)

- 1) All RTK-GPS BPMS must be approved by the IWWF Technical Control Committee.
Approved RTK-GPS BPMS:
 - * Sure-Path (RTK-GPS).
- 2) All Video Based BPMS must be approved by the IWWF Technical Control Committee.
Approved Video Based BPMS:
 - * Splasheye Drive (Video System).

b) RTK-GPS Manufacturer Technical Specification

- 1) Raw data shall be recorded at a minimum rate of 10 times per second (10Hz).
- 2) Limited “smoothing” should be applied to the series of raw data points measured as the boat travels through the course. Smoothing should be applied by averaging each raw data point with its immediate predecessor. “Smoothed” data is to be used for all scoring, display, and monitoring purposes.
- 3) Raw unsmoothed data points shall be retained and available for export as required.
- 4) All measured deviations as described below will be rounded to the nearest centimetre.
- 5) All measured deviations shall be transmitted to the WaterskiConnect server for scoring.
- 6) Slalom Deviation is measured from the Slalom Course Centreline (G1/G2 and G3/G4).
- 7) Slalom Buoy Deviation is defined as the reading nearest the skier, measured during the period from when the pylon is at the buoy to 5 meters after the buoy. This deviation is submitted to the scorer/judges.
- 8) Slalom Cumulative Deviation is defined as the arithmetic sum of the buoy deviations. This deviation is submitted to the scorer/judges.
- 9) Slalom Entry Gate Deviation is defined as the maximum reading from centreline measured during the period from when the pylon is 2m before to 2 meters after the gate.
 - * Entry Gate Deviation is not used in cumulative deviation.
 - * Exit Gates are not measured for deviation.
- 10) Slalom Pre-Gate deviation is measured at the Pre-Gate or the first reading immediate after the pre-gate. Pre-Gate Deviation is not used in cumulative deviation.
- 11) Slalom Zone Deviation is defined as the reading nearest the skier, measured during the period from when the pylon is 5 meters after the buoy to 10 m after the buoy. This is for driver information only.
- 12) For Slalom, a deviation away from the skier is Negative and a deviation towards the skier is Positive.
- 13) Jump boat course centreline deviation is the deviation from the course boat centreline (15/19ST and 15/19ET). Deviations are measured at 180m, ST, NT(52m after ST), MT, ET (or the first available reading after each point).
- 14) For Jump the system must have an offset from the centreline by +/- 1, 2 or 3 multiples of 30cm. Within the RTK-GPS system, deviations shall be measured and recorded from the true centreline but for scoring and display purposes. The appropriate offset shall be applied to the deviation readings.
- 15) For Jump, a deviation away from the jump is positive and towards the jump is negative.

Example of Slalom Gate, Buoy and Zone Deviation



c) Video-Based BPMS Technical Requirements

- 1) The deviation should be calculated at each frame within the relevant measurement zone and the single maximum recorded deviation used.
- 2) If not practicable due to time constraints to measure at every frame, a visual inspection process should determine the frame with maximum deviation and the maximum deviation should be measured from that frame.

25.19: Record Capability and Ranking List Minimum Competition Standards

The level of Officials as shown below refers to the Competition Officials who Judge each individual event.

	World Record	Ranking List
Prior Announcement	YES *1	YES
Confederation Approved Panel	YES	YES
Number of Rounds	4	4
Conflict of Interest Rules	Refer to (3.04)	Refer to (3.04)
Chief Judge	Level 2 Judge (Level 1 or 2)	Level 2 Judge (Level 1 or 2)
Homologator	Top 2 ratings (Level 1 or 2)	Top 2 ratings (Level 1 or 2)
Scorer	top 2 ratings (Level 1 or 2)	top 2 ratings (Level 1 or 2)
Driver	top 2 ratings (Level 1 or 2)	top 3 ratings (Level 1,2 or 3)
Duplication of duty	Any combination of two of the following positions may be held without conflict: Chief Judge/Driver/Scorer/Homologator/Judge (Refer to *3)	

SLALOM

Course Check	Refer to rule 25.01, 25.02 and 25.05	Refer to rule 25.01, 25.02 and 25.05
Slalom Course	No single centre line floating courses except of approved design *2	no single centre line floating courses except of approved design *2
Tolerances	Per Rule Book	Per Rule Book
Buoys	Measured	Measured
Timing	Automatic	Automatic
End Course Video	Refer to rule 8.15	Refer to rule 8.15
Video method	Refer to rule 25.07	Refer to rule 25.07
Boat Video	Required, refer to rule 8.13	Refer to rule 8.13
Gate Video	Required, refer to rule 8.06, 8.13 and 8.19	Refer to rule 8.06, 8.13 and 8.19
Judging Towers	Refer to rule 8.06, 8.13 and 8.19	Refer to rule 8.06, 8.13 and 8.19
Judges	5 Level 2, or 3 Level 2	minimum 3 Level 2 and 2 Level 3, or minimum 2 Level 2 and 1 Level 3
Backup timer	Not Applicable	Not Applicable

TRICKS

Course Check	Refer to rule 25.01 and 25.03	Refer to rule 25.01 and 25.03
Tolerances	Per Rule Book	Per Rule Book
Timing	Video Timing	Video Timing
Video	Refer to rule 9.18 and 25.06	Refer to rule 9.18 and 25.06
Judges	5 Level 2 or if immediate review available 3 Level 2 See Rule 10.12	minimum 3 Level 2 and 2 Level 3 or if immediate review available minimum 2 Level 2 and 1 Level 3 See Rule 10.12
Timer	top 2 ratings	top 3 ratings

JUMP

Course Check	Refer to rule 25.01, 25.04 and 25.05	Refer to rule 25.01, 25.04 and 25.05
Tolerances	Per Rule Book	Per Rule Book
Timing	Automatic	Automatic

Video Jump Measurement	Required	Required
Distance Calculation	COMPUTER	COMPUTER
Program Check	YES	YES
Judges	3 Level 2	minimum 2 Level 2 and 1 Level 3
Video Judges	Level 2	minimum 1 Level 2 and 1 Level 3
Backup Timer	Not Applicable	Not Applicable
Speed Control	Required	Required
Homologation Dossier	IWWF Electronic Dossier Required	IWWF Electronic Dossier Required

- *1 To obtain R homologation a competition must be sanctioned 30 days in advance. Competitions will be shown as “Record Capability” **on the EMS**. All data needs to be completed including the proposed Officials panel. If not the maximum level of homologation granted to that event will be L.
- *2 For a single centre line course to be used, the buoy support structure must be rigid. The buoy support structure is independent of the cable but attached to it. The structure must guarantee that the line of the three buoys is perpendicular to the wire. The centre cable must be taut to ensure a straight line. Please refer to additional material detailing this design in rule [25.11](#).
- *3 Duplication of duties: (Chief Judge, Scorer, Homologator and Driver)
 Chief Judge may also be a panel Judge or, if qualified, be the Homologator.
 Homologator, if qualified, may also be a panel Judge or the Scorer.
 Scorer, if qualified, may also be a panel Judge or the Homologator.
 Driver: A driver cannot have 2 roles in the same event, (cannot be at the same time: Driver and Judge, Driver and Scorer or Driver and Homologator), but can have, if qualified, different roles in different events.
 Where the duplication causes a conflict, the final decision will be taken by a simple majority of the event Judges.
 Any duplication of duties is limited to two functions but should be avoided if possible.

25.10: Homologation Dossier (2023)

International Waterski and Wakeboard Federation Homologation Dossier: [Homologation Dossier](#)

HOMOLOGATION DOSSIER

Competition name: _____ Competition Code: _____
 Date: _____ Site Name: _____ Site Code: _____
 Organising Country: _____ Type of competition: (_____)
 Were cash prizes or merchandise awarded (Yes/No) (_____)

Homologator's and Chief Judge recommendation to Waterski Council

(Fill in R-Record, L-Standing List)

Event	Round 1	Round 2	Round 3	Round 4
Slalom	()	()	()	()
Tricks	()	()	()	()
Jump	()	()	()	()

HOMOLOGATOR'S CHECKLIST

If checked and all according to rules put OK.

If checked and any variation to the rules put an X and explain in "Remarks" section.

Not applicable is NA or leave blank for events not sanctioned.

BOAT CHECKLIST

1. Boats and equipment (Rule 5) ()
2. Speed Control (Rule 5) ()
 Manufacturer: (_____)
 Software Version: (_____)
- Slalom ()
- Tricks ()
- Jump ()

SLALOM CHECKLIST

1. Slalom Course Type: (_____)
 (single anchor/cross line/four-line floating/centreline frame/other)
2. Slalom course Survey attach (8.17, 25.02): Survey date: (_____)
3. Slalom buoy diameter/height checked (8.07, 25.02) ()
4. All buoys are clearly visible (8.07, 25.02) ()
5. Boat guides visually checked for straightness (25.02) ()
6. Gate Camera position and height (8.13/8.19) ()
7. Gate Video Camera View and Recording (8.13, 25.06) ()
8. Position and height of slalom tower (8.06, 8.13) ()
9. Slalom Shore Official Configuration (8.13)
 4 judges- 2 on each side (44 deg.) (8.19) ()
 2 judges on one side (gate) + 1 judge on the other side ()
 2 judges, 1 on each side with gate video ()
 2 central tower w live boat video ()
 2 central towers without live boat video ()
10. Measure/Inspect tourn supplied slalom lines/handles (5.09) ()
11. Arrangement for checking of skier supplied slalom handles (5.11) ()
12. Speed control mapped (5.03, 5.04, 5.07) ()
13. Boat Path Monitoring System Used: (_____)
 (Sure-Path/SplashEye/other 25.08)
14. If RTK-GPS Boat Path Measurement System is used:
 1. Verification method used (25.02):
 i. Self-Check using BPMS () or
 ii. Comparing to Official Survey ()
15. If video base BPMS used, system verified (25.06, 25.08) ()

- 16. Boat camera and video recording (Class R) minimum
704x480 pixels @ minimum 25fps (PAL) 30fps (NTSC)
- 17. EC Video or BPMS Data forwarded to Confederation
Filename (25.02):

TRICKS CHECKLIST

- 1. Trick course checked (9.01/9.24)
- 2. Arrangement for checking rope release (9.13)
- 3. Additional weight available (9.14)
- 4. Trick Officials
5 Judges (9.12)
3 Judges (9.12)
- 5. Video Tricks Timing system manufacturer
(SplashEye/Video Stop Watch/Loreto/Bottcher/Corson/other)
- 5. Video Trick Timing System verified (25.03)

JUMP CHECKLIST

- 1. Jump Course type:
(single anchor/cross line/two-line floating/centreline frame/other)
- 2. Jump course Survey and within tolerance (10.16, 25.04)
- 3. Jump buoy diameter/height per rule (8.07, 25.04)
- 4. All buoys are clearly visible (8.07, 25.04)
- 5. Boat guides visually checked for straightness (25.04)
- 6. Ramp ratio verified and recorded (below) (10.02)
- 7. Ramp markings are clearly identified (6.50m & 7.00m) (10.02)
- 8. Ramp surface deviation verified and recorded (below) (10.02)
- 9. Ramp width at top and bottom is between 3.7m and 4.3m (10.02)
- 10. Ramp as minimum 50cm under water (10.02)
- 11. Minimum side curtain depth with ramp set at 1.80M depth
under water is 20cm (10.02)
- 12. Side Curtain Specification; Minimum angle 28deg and
Max 60 deg (10.02)
- 13. Ramp surface inspected (25.04)
- 14. Ramp inspected to ensure secured (25.04)
- 15. Measure/Inspect competition supplied line/handles (5.09)
- 16. Arrangement for checking skier's supplied line/handles (5.11, 25.04)
- 17. Manufacturer of Video Jump Measurement System (25.07)
(SplashEye/Video Tape Measurement/Loreto/Boettcher/Corson)
- 18. Video Jump Measurement System – verify setup and
homologation level (25.04)
- 19. Speed Control mapped (5.03, 5.04, 5.07)
- 20. Boat Path Monitoring System:
(Sure-Path/SplashEye/other) (25.08)
- 21. If RTK-GPS BPMS used:
1. Verification method used (25.04):
i. Self-Check using BPMS or
ii. Comparing to Official Survey
- 22. If Video Base BPMS used, system verified (25.06, 25.08)
- 23. If BPMS not used, EC Video forward to Confederation
Filename:

JUMP SETUP

JUMP RAMP SURFACE MEASUREMENT

Maximum Deviation from plane (10.02f) X.X cm
Max deviation point from top of jump (10.02f) X.XX m

RAMP SETTING

Setting	Right Side			Left Side		
	Height	Length	Ratio	Height	Length	Ratio
1.35	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.50	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.65	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X
1.80	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X	XXX.X

END OF HOMOLOGATION FORM

It is important to leave the above section in the exact format as it will be processed automatically. The following section is where free form comments are added, and attachments are made.

HOMOLOGATOR'S REMARKS - Must provide any variations (examples below):

- Rules:
- Course alterations:
- Malfunction of equipment:
- BPMS:
- Boat/Speed Control:
- Other:

Homologator:
(name and address)

Email:

Chief Judge:
(name and address)

Email:

This homologation record must be uploaded to IWWF

HOMOLOGATION NOTICE

For World and Confederation Titled Events the Homologation Notice must be posted before the competition starts

Tournament Name: _____

Date: _____

RAMP SETTING

Setting	Height	Right Side		Height	Left Side	
		Length	Ratio		Length	Ratio
1.35	()	()	()	()	()	()
1.50	()	()	()	()	()	()
1.65	()	()	()	()	()	()
1.80	()	()	()	()	()	()

Speed Control Manufacturer: _____

Software Version: _____ Default PF (Jump) _____

We recommend to the IWWF Waterski Council the following class of homologation:

Event	Round 1	Round 2	Round 3	Round 4
Slalom	()	()	()	()
Tricks	()	()	()	()
Jump	()	()	()	()

Date: _____

Time: _____

Chief Judge

Homologator

Note: These recommendations may change during the competition.

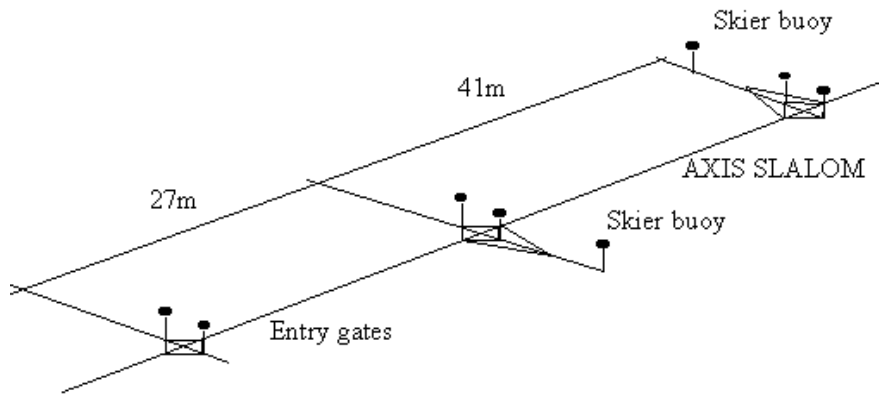
Remarks:

25.11: Allowable Structure for a Floating Course

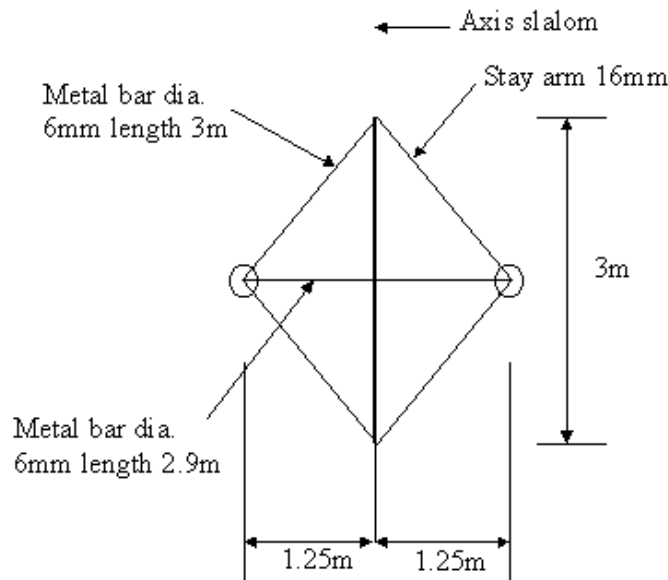
Each frame is separately attached to the cable. The frame must be horizontal in the water.

The 2 main bars of the frame must be perpendicular, so the length of the guy wires must be calculated in order to have a 90° angle and keep the frame square.

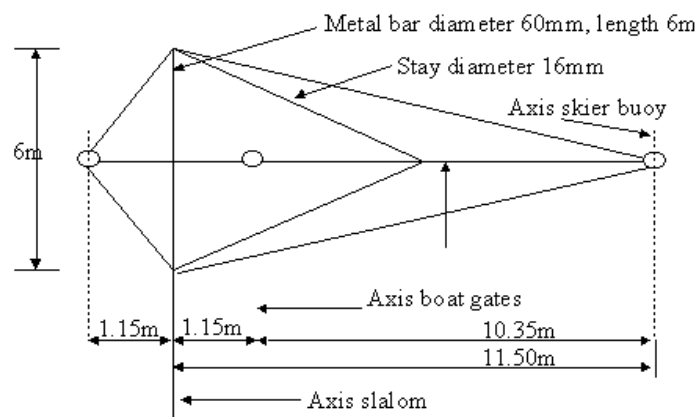
CENTRE LINE SLALOM COURSE PRINCIPLE



SLALOM - ENTRY GATES



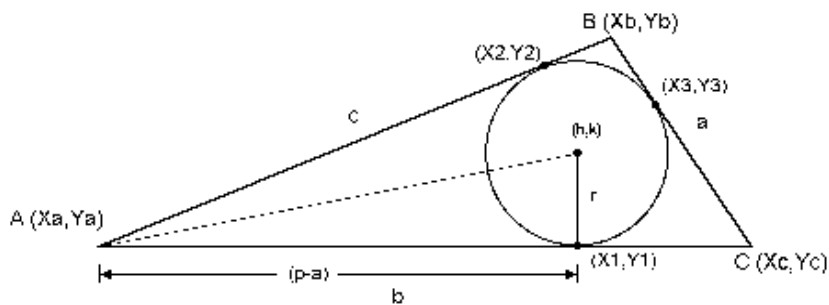
SLALOM FRAME



25.12: Specific Inscribed Circle Algorithm Description

(Note as one type of video system uses 3 cameras, this calculation method is still applicable).

Algebraic Solution of the Inscribed Circle where the absolute positions of the vertices of the triangle are known. This solution assumes that the triangle vertices have been found as required by normal trigonometric solution.



$$r = \sqrt{(p-a)(p-c)/p} \quad p = (a+b+c)/2$$

$$X1 = Xa + (p-a)(Xc - Xa)/b \quad X2 = Xa + (p-a)(Xb - Xa)/c \quad X3 = Xb + (p-b)(Xc - Xb)/a$$

$$Y1 = Ya + (p-a)(Yc - Ya)/b \quad Y2 = Ya + (p-a)(Yb - Ya)/c \quad Y3 = Yb + (p-b)(Yc - Yb)/a$$

Using the general formula $(X-h)^2 + (Y-k)^2 = r^2$, and substituting in $(X1, Y1)$, $(X2, Y2)$, $(X3, Y3)$ and solving the three equations simultaneously gives:

$$X1^2 - 2X1h + h^2 + Y1^2 - 2Y1k + k^2 - r^2 = 0 \quad (1)$$

$$X2^2 - 2X2h + h^2 + Y2^2 - 2Y2k + k^2 - r^2 = 0 \quad (2)$$

$$X3^2 - 2X3h + h^2 + Y3^2 - 2Y3k + k^2 - r^2 = 0 \quad (3)$$

Where subtracting (2) from (1) gives (4) and (3) from (2) gives (5)

$$X1^2 - 2X1h - X2^2 + 2X2h + Y1^2 - 2Y1k - Y2^2 + 2Y2k = 0 \quad (4)$$

$$X2^2 - 2X2h - X3^2 + 2X3h + Y2^2 - 2Y2k - Y3^2 + 2Y3k = 0 \quad (5)$$

Combining terms and reducing (4) gives (6): Combining terms and reducing (5) gives (7):

$$h(2X2 - 2X1) = -k(2Y2 - 2Y1) + Y2^2 - Y1^2 + X2^2 - X1^2 \quad (6)$$

$$h(2X3 - 2X2) = -k(2Y3 - 2Y2) + Y3^2 - Y2^2 + X3^2 - X2^2 \quad (7)$$

Substituting the following terms:

$$A = 2X2 - 2X1 \quad B = 2Y2 - 2Y1 \quad C = Y2^2 - Y1^2 + X2^2 - X1^2$$

$$D = 2X3 - 2X2 \quad E = 2Y3 - 2Y2 \quad F = Y3^2 - Y2^2 + X3^2 - X2^2$$

gives from (6) $h = (C - Bk)/A$ (8), and gives from (7) $h = (F - Ek)/D$ (9)

Since (8) = (9) $k((D^*C - A^*F)/(B^*D - A^*E))$ $h = (F - E^*k)/D$

Where h is the X coordinate of the centre of the inscribed circle and k is the Y coordinate of the centre of the inscribed circle.

Note that if $X2 = X3$ the solution will not reduce, and the vertices of the triangle will need to be re-labelled. This is also true of the denominator of k. However, since each of these values is calculated, the chance of this is exceedingly small, but a test should be made for it as it is certain to happen on a World Record jump.

Boat Path Portal

WB (World Drivers Committee President) stated that since the introduction of Sure-Path, a lot of data has been collected. Until now, access to this data has been limited, but given the amount of data collected and the possibilities of their use, it has become necessary to create a place to store them and create some rules about their use.

The Drivers Committee proposes to create a web-based portal which would allow access only to authorized users for the purpose of analysing and reviewing boat path data currently collected via WaterSkiConnect from competitions, clinics, training sessions, etc.

The anticipated development cost is \$5000, with annual hosting and maintenance costs of \$750. Development time frame is estimated at 6 months.

The Council agrees with the above and on the explanatory document (see below), confirms the need for the creation of this portal and, making the request its own, will forward it, for the necessary request for expenditure, to the World President.

CM will take care of it.

Boat Path Analysis Portal

The World Drivers Committee is requesting funding for development of a web-based portal which would allow access only to authorized users for the purpose of analysing and reviewing boat path data currently collected via WaterSkiConnect from tournaments, clinics, training sessions, etc.

This portal will provide authorized users with the on-line tools to analyse data:

1. INDIVIDUALS:

Individual drivers will be provided secure access to their personal data only. The driver will be able to review passes from a given day or a summary over a given time. Drivers will be able to compare their results and statistical information against summary data from a pool of drivers. (All personally identifiable information from the driver pool / comparable data sets will be removed).

2. CONFEDERATIONS:

Each Confederation Drivers Committee Representative will have access to driver data for their respective CONFEDERATION ONLY. Confederation Drivers Committee Representatives will have access to high level aggregate data across Confederations (Aggregate data will not include any personally identifiable information).

Each Confederation Council shall adopt, for their CONFEDERATION ONLY, a policy regarding how data can be shared with and accessed by a National Federation within the Confederation.

3. WORLD DRIVERS COMMITTEE:

The World Drivers Committee consists of the Chairs from the respective Confederation Drivers Committees (E&A, Oceania and PanAm). The World Committee will have access to all the data including access to high level aggregate data. Limited, specific exceptions may be granted by the Committee.

The anticipated development cost is \$5000, with annual hosting and maintenance costs of \$750. Development time frame is estimated at 6 months.

The meeting close at 16:00 CET

Candido Moz