



ANNEXES TO THE IBU EVENT AND COMPETITION RULES

LIST OF CONTENTS

ANNEX A	Material Catalogue	3
ANNEX B	Duties of the Competition Jury, Technical Delegates and International Referees	20
ANNEX C	Training and Licensing of Technical Delegates and International Referees	31
ANNEX D	Rules for Summer Biathlon	42

4 ANNEX A MATERIAL CATALOGUE

LIST OF CONTENTS

1.	General	3
2.	New Materials	2
3.	Material Specifications	6
4.	Advertising	15
5.	Inspection Procedures	16

LIST OF TABLES

TABLE 1	Biathlon Rifle Diagram	18
TABLE 2	Standard Dimensions for Metal Targets	19
TABLE 3	Standard Dimensions for Paper Targets	19
TABLE 3	Wind Flag Diagram	20

1. GENERAL

1.1 PURPOSE

The purpose of the IBU Materials Catalogue is to regulate all aspects of materials and equipment relating to biathlon competitions. It is based on the binding nature of the IBU Event and Competition Rules and is part of those rules. The Materials Catalogue provides the definitions, current specifications and requirements of all competition-related materials, the approval process for the admission of new materials, and the inspection procedures for enforcing the materials regulations. In essence, the Materials Catalogue safeguards:

- a. the principle of fairness and equal opportunity for all competitors;
- b. the safety and health of all persons associated with biathlon competitions;
- c. the preservation of the nature and traditions of the sport of biathlon.

1.2

DEFINITION

The term materials is sub-divided into two major categories: competition equipment and organization equipment.

1.2.1

Competition Equipment

Competition equipment refers to all items that a competitor wears or carries for a competition and official or unofficial training during an event. Competition equipment includes e.g. skis, poles, bindings, boots, rifle, ammunition and magazines, clothing; and accessory equipment such as gloves, goggles and earmuffs, rifle bags and ski clips.

1.2.2

Organization Equipment

Organization equipment consists of all the other materials that are required to conduct a biathlon competition or training during an event that are not worn or carried by the competitor. Examples of organization equipment are: targets, timing equipment, mats, wind flags, signage and equipment measuring devices, etc.

1.3

PROHIBITED MATERIALS

In principle all materials are prohibited that:

- a. affect the natural push-off movement of competitors' feet and arms or those that enhance it (such as spring devices or other mechanisms in skis, poles, bindings or boots);
- b. make use of sources of energy not originating from the competitor, such as artificial heating devices, chemical energy suppliers, electrical batteries, mechanical aids, etc.;
- c. affect the external conditions of the competition to the detriment of other competitors, such as changing the track or snow conditions;
- d. increase the risk of injury to competitors and other persons who are authorized to be present at the competition venue, when used normally.

2. NEW MATERIALS

2.1 DEFINITION

New materials are defined as any competition equipment or organization equipment that have not been approved or rejected by the IBU TC. Any new materials must be submitted to the IBU TC for approval before they can be used in an IBU event or competition.

2.2 APPROVAL PROCESS

2.2.1 Procedure

Any new developments in materials produced by the industry or the NFs for the following season must be submitted to the IBU no later than 1 May of the year in which the season begins. The submission must be accompanied by appropriate information material such as drawings, descriptions or test results. Prototypes may be submitted as well. New developments that are in compliance with the rules will be immediately approved by the IBU TC.

2.2.2 Provisional Approval

In rare cases provisional approval may be granted for a year, following which a definitive decision must be made in the subsequent season.

2.2.3 Standard Products

New designs of competition clothing, bindings, boots, rifle slings, head-gear and gloves do not have to be presented to the IBU TC, provided that it is clear that the new products meet the IBU rules. If the materials do not meet the rules they can be banned on short notice.

2.2.4 Availability

Any new materials must be accessible to all NFs and competitors in the following season.

3. MATERIALS SPECIFICATIONS

3.1 COMPETITION EQUIPMENT

3.1.1 Competition Skis

Changes to these rules will be published as required.

3.1.1.1 Ski Length

The minimum ski length is the competitor's height minus 4 cm; maximum length: no limit. If competitors are so tall that commercially produced skis are too short for them under this rule, the TD may authorize an exemption so that the competitors may use the longest commercially available skis of any common brand.

3.1.1.2 Ski Width

The ski waist, measured under the binding, may have a minimum width of 40 mm; maximum: no limit.

3.1.1.3 Ski Tip Section

The minimum width of the ski tip area must be 30 mm.

3.1.1.4 Ski Tail Section

When the unweighted ski is placed on a flat surface, the height of the ski tail above the surface must not exceed 3 cm.

3.1.1.5 Weight

The total weight of a pair of skis must be at least 750 grams, without bindings. There are no restrictions on the distribution of weight.

3.1.1.6 Construction

3.1.1.6.1 Type of Construction

No limitations.

3.1.1.6.2 Shaping

Both skis must have the same type of construction, so that there is no difference between the left and the right ski. There are no restrictions on the types of lamination construction permitted to be used. There are no limitations on rigidity in any direction.

3.1.1.6.3 Gliding Surface

The entire length of the running surface can either be smooth or slightly grooved in the longitudinal direction. Except for the guiding grooves, the

entire length and width of the running surface must be flat. Engraved or impressed climbing aids such as scales or steps are permitted. Devices that are activated by any energy other than the competitor's own muscular power are not permitted.

3.1.1.6.4 Top Surface

No limitations.

3.1.1.6.5 Edges

The side walls may not be angled as they extend upwards so that the ski base is narrower than the upper surface (i.e. wedge form not allowed).

3.1.1.7 Stress Properties

No limitations.

3.1.2 Ski Bindings

There are no restrictions on the type of materials used or the make.

3.1.3 Competition Ski Boots

There are no restrictions on the type of materials used or their construction.

3.1.4 Competition Ski Poles

3.1.4.1 Specifications

- a. The poles must not be longer than the competitor's body height, measured by placing the pole tip on the ski in front of the binding;
- b. The pole must have a fixed length: the shaft must not be telescoping or of variable length;
- c. The poles must not have any energy source to improve push, such as springs or other mechanical devices;
- d. There is no upper or lower weight limit for poles;
- e. The poles may be asymmetrical: there can be a distinct right and left hand pole;
- f. The pole must not cause changes to the competition conditions such as changes to track or snow conditions;
- g. The hand grip must be permanently fastened to the shaft. There are no restrictions concerning its shape, construction or materials;
- h. The strap must be connected to the handgrip or the shaft but may be detachable. It can be adjustable both in length and width. There are no restrictions on materials;
- i. There are no limitations on the shape or materials of the shaft, or on the mass distribution;

- j. Exchangeable baskets with different geometric features and materials to match different snow characteristics are allowed;
- k. The tip may be connected at any angle to the shaft. One or more tips are allowed. There are no restrictions on materials.

3.1.5 Clothing

The following rules apply to competitors' apparel:

- a. Advertising on the competition clothing must be in accordance with the current IBU rules;
- b. Padding is only allowed on the inside of the competitor's racing suit. The total thickness of the padding, cloth and lining of the competition garment may not exceed 6 mm when measured in an unpressed state, except on the back of the suit, where the rifle is carried. The back area is not subject to any restriction on padding;
- c. On the outside of the sports clothing no adhesive materials, such as Velcro or tape, wax, resin, glue or any additional stitching (with the exception of the stitching to fasten the padding) may be used. However, non-slip material may be used;
- d. A special device for preventing the shooting sling from slipping down is allowed on the sleeve of the competitor's upper arm.

3.1.6 Rifles

3.1.6.1 General

Rifles may not be of automatic or semi-automatic design. Loading or unloading may only be done using the competitor's own muscle force.

3.1.6.2 Parts of a Biathlon Rifle

A diagram is provided in Table 1 of a biathlon rifle with the names of the parts.

3.1.6.3 Approved Types of Actions

The authorized types of rifle actions are as follows:

- a. the common bolt system;
- b. pistol grip cocking;
- c. straight pull action;
- d. straight pull action with ball-bearing locking.

3.1.6.4 Specifications

Rifles used in competitions must meet the following specifications:

- a. The distance between the center-line of the barrel and the lower edge of the forestock, including magazine and trigger guard, must

- not exceed 120 mm;
- b. The thickness of the cheek piece must not exceed 40 mm;
- c. A folding stock is not permitted;
- d. The sight system may not have any optical device and may not have a magnifying effect. The insertion of optical lenses into the eye for this purpose is also prohibited;
- e. The caliber of the barrel must be 5.6 mm (.22 inch rifle);
- f. The trigger resistance must be a minimum of 0.5 kg;
- g. The trigger must be surrounded by a rigid, closed trigger guard;
- h. The rifle may have a sling and must have a carrying harness. The width of the sling and cuff must not exceed 40 mm;
- i. Including all accessories – except magazines and ammunition – the rifle must not weigh less than 3.5 kg;
- j. The magazines must not permit the insertion of more than 5 rounds. For the relay competition, three spare rounds may be carried in a magazine installed for that purpose, or in a special quick release device. However, a spare round may not be carried in the chamber. The magazines may be carried in the forestock or the butt.
- k. The advertising attached to the rifle must be in conformity with current IBU regulations;
- l. On both sides of the forestock, a smooth – meaning flat or nearly flat – rectangular IBU marking surface must be kept free of other markings and reserve ammunition: 15 cm in front of the trigger or the bolt handle or the front end of the trigger guard (the competitor may choose), over the entire width of the stock and at least 4 cm high. Alternatively, the bolt handle or the trigger guard may extend into this area; however, not so far that the IBU rifle control sticker is covered up or cut off.

3.1.7 Ammunition

3.1.7.1 Required Characteristics

Only international standard .22 inch (5.6 mm)-long rifle rim-fire ammunition may be used. The bullets must be made of a uniform substance, lead or a similar soft material such as a lead alloy. The weight of the bullet is to be between 2.58 and 2.61 grams.

3.1.7.2 Muzzle Velocity

The muzzle velocity must not exceed 380 m/s, measured 1 m after leaving the muzzle.

3.1.7.3 Hit Impact Momentum

The impact momentum of bullets fired from a distance of 50 m at a relatively stiff steel plate, must not exceed 0.9 N/s (=0.09 kgm/s) with a maximum tolerance of 11%, i.e. 0.099 Ns. This means that the maximum permitted impulse is 1.0 N/s (= 0.1 kgm/s).

3.1.7.4 Hit Impulse Testing

To assess whether ammunition can be used in competition, it can be tested by being shot at a test target with variable release impulse. The target must be set in such manner that an impulse of 1.0 N/s does not trigger release, but an impulse of 1.1 N/s definitely shows a hit. If no target has been released after 5 shots have been fired at a distance of 10 m, the ammunition may be used. Ammunition must be tested with the competitor's own rifle or an identical one. Ammunition testing may be ordered during an event by the RD/TD.

3.1.8 Rifle Bags

Rifle bags must provide a window of minimum 15 x 15 cm that allows a clear view of the rifle bolt.

3.2 ORGANIZATION EQUIPMENT

3.2.1 Target Systems

3.2.1.1 Uses of Targets

The numbers and types of targets authorized for use in various competitions are detailed in the IBU Event and Competition Rules. Targets must be situated, set up, numbered and maintained as detailed in the IBU Event and Competition Rules.

3.2.1.2 Types of Targets

There are two main types of targets used for biathlon training and competitions – metal and paper.

3.2.1.3 Targets – OWG, WCH and WC

At OWG, WCH and WC competitions, only electro-mechanical and electronic target systems that are in compliance with the current IBU Materials Catalogue may be used.

3.2.1.4 Targets – Y/JWCH, OECH, CCH and CC/RC

At Y/JWCH, OECH, CCH and CC/RC competitions, mechanical manually-operated targets will be permitted, but the use of electro-mechanical

and electronic targets is to be encouraged. The ropes for operating manually-operated targets should be placed through tubes under the shooting ramp to the rear of the ramp so that the targets can be operated without interference to shooters.

3.2.1.5 Metal Target Operating Systems

Metal targets are produced in mechanical and electro-mechanical variations. They operate as follows:

a. **Mechanical Target Operating Systems**

Mechanical targets indicate the hit of a bullet by the physical force of the bullet impact knocking down the target and replacing it with a white indicator disc. Mechanical targets can also be manually reset after a shooting bout by pulling a rope to bring the fallen target plates back into position. Changing between standing and prone configurations is done manually with a rope.

b. **Electro-Mechanical and Electronic Target Operating Systems**

In an electro-mechanical or electronic system, targets are reset and configurations changed by remote control with the aid of electrically powered servo-motors. With electro-mechanical or electronic systems, hits are normally recorded electronically through a magnetic, motion or impact sensor in the target. Hits are normally visually indicated with a mechanically- or electronically-activated white indicator disc.

3.2.1.6 Metal Target Description

Targets must consist of a white target face plate with 5 target apertures, behind which there must be 5 independently operating knock-down, falling-plate or electronic sensor plate scoring targets. The scoring plates must be black. A hit must be indicated by the black target circle being replaced by a white indicator disc.

3.2.1.7 Paper Target Description

Paper targets must be identical to the metal targets in size and appearance. The paper background must be white in color and may not be reflective. The five circular targets must be black. See Table 3 for standard dimensions for paper biathlon targets.

3.2.1.8 Target Sizes and Aperture Positions

Table 2 details all the required dimensions and the positioning of the target circles for both metal and paper targets. The diameters of the black circles for the aiming and the scoring areas of both metal and paper are as follows:

Standing – aiming 115 mm – scoring 115 mm

(dotted line at 110 mm on paper targets)

Prone – aiming 115 mm – scoring 45 mm

(dotted line at 40 mm on paper targets).

3.2.1.9 Functional Requirements for Metal Targets

The target system must meet the following requirements:

- a. Reliable functioning under all types of weather conditions in which competitions are held;
- b. Hits must be shown at a standard hit impact momentum (releasing impact) that has been determined by the IBU TC, to ensure that the releasing impact momentum is the same for all targets used during a competition.

3.2.1.10 Tolerances and Shape Requirements

The size of target openings must be:

Diameter 115 mm, +/- 0.3 mm for standing position;

Diameter 45 mm, +/- 0.3 mm for prone position.

The target apertures used for shooting in the standing and prone positions must be concentric. The permissible tolerance is 0.3 mm. The aperture rim must be well defined and devoid of deformations. The centering of the prone target aperture must be within a tolerance of +/- 0.5 mm.

3.2.1.11 Deformations

Continuous use of a target system can result in the flat surface becoming deformed.

Such deformations must not deviate more than 1 mm from the remaining surface of the target. The depth of the deformation must be measured relative to the edge of the surface of the 115 mm diameter target.

3.2.1.12 Materials and Hardness

Metal targets must be made of steel with a hardness of at least 350 HB, with a hit plate with a minimum of 480 HB.

3.2.1.13 Release Impulse

A target should show a hit when hit by a bisected bullet at a release impulse of at least 0.45 N/s. A release tolerance of +/- 33.33 % is permitted. That means that all target systems must be set in such a way that it does not actually matter where the bullet hits the target. A release impulse of less than 0.3 N/s will not be shown as a hit, while a release impulse greater than 0.6 Ns will definitely show as a hit.

3.2.1.14 Special Requirements for Electronic Target Systems

In addition to the standard requirements for biathlon targets, electronic systems must comply with the following:

a. Data Feed Distribution

The system must be able to transfer data to multiple operation points such as timing, data processing and TV (including graphics) production;

b. Interface Hardware

All data flow other than system-internal processes must use a RS-232 interface. No buffering or handshake controls are necessary;

c. Communication Protocol

In order to process and log the data feed with standard PC equipment, a simple ASCII-coded protocol must be used. The following information must be transmitted:

- competitor arrival at shooting lane (start of shooting);
- assignment of start number to shooting lane, including A to D indicators for relay competitions;
- missed shot(s);
- target hits (including target plate numbers 1 to 5);
- end of shooting bout (important data such as shooting lane, start number, total misses, number of spare rounds used in relay competitions, and shooting time should be in this feed);

d. Transmission Delay

The maximum delay, from when a target hit or miss is registered by the target sensor system until the complete transmission via the data output line, must not exceed 200 ms. This limit must also be maintained during heavy shooting on the range, such as in the Pursuit and Mass Start competitions;

e. Backup Systems

To guarantee reliable data feed during major international events, the target system must have two completely separate processing systems, and therefore must provide two data feeds to the main and backup timing, data processing and TV graphics systems.

3.2.1.15 Approval of Targets

All target systems that are to be used during IBU competitions will require approval by the IBU TC. Target systems will be approved by the IBU provided the manufacturers concerned submit a prototype to the IBU

that the IBU deems acceptable according to these regulations. Approval can be withdrawn if technical error occurs, and/or if a particular type of target system becomes technically outdated.

3.2.1.16 Targets Currently Authorized by the IBU

At present, the following target systems are approved for use:

- a. Mechanical Systems
Kurvinen – FIN,
Devon Model BT-500 – USA,
HORA 1000 – GER,
VingMek – NOR;
- b. Electronic/electro-mechanical Systems
Kurvinen (KES 2002) – FIN
- c. Electronic Systems
HoRa 2000 E – GER.

3.2.2 Wind flags

Wind flags for the shooting range must be of a highly visible color, 10 x 40 cm in size and must be made from thin artificial silk or natural silk. Flags may not weigh more than 5 grams. Their construction must allow easy 360-degree rotation, pivoting at a right angle to the flag post. A diagram of wind flag construction is shown in table 4 of this Annex.

3.2.3 Start Numbers

3.2.3.1 Sizes

Start numbers must be of the following dimensions:

- a. Front and back numbers: outlined figures or block figures – height at least 10 cm; width (of each line in each figure) at least 1.5 cm for outlined figures and 2 cm for block figures;
- b. Side numbers on the start number: height at least 6 cm; width at least 1.2 cm. The bottom edge of the figures on the sides must be spaced 8.5 cm from the bottom edge of the start number;
- c. Leg numbers: 12 cm high and 2 cm wide.

3.2.3.2 Fabric/Materials

Pullover (vest) start numbers must be made of smooth fabric, 100% polyester interlock or 100% polyester-warped knitting. The start numbers must be tailored to the needs of the competitors: they must not impede the movement of their shoulder joints.

3.2.4 Timing Equipment

At all IBU events, computer-supported electronic timing equipment must be used. The equipment must be able to interface electronically with the target system in use, and must have electronic sensors at the start and finish. Additionally, the equipment system must be able to receive and process manually- or automatically-activated intermediate time signals. For manual timing, good quality professional stop watches or manually- activated electrical timing devices must be used.

4. ADVERTISING

4.1 ADVERTISING RULES

The IBU advertising regulations (IBU Rules for Advertising) apply to all IBU events.

4.2 COMMERCIAL MARKINGS ON EQUIPMENT

Technical specifications of the size, the form and the number of commercial markings on equipment will be decided by the EB and will be published as Advertising Rules in a separate document.

4.3 MEASUREMENT OF ADVERTISING SURFACES

Advertising has a two dimensional shape defined by its text, line boundary or color boundary. Advertising may be square, rectangular, triangular, circular, polygonal or irregular in shape. The size of the surface area that the text or the area within the boundary occupies must be measured so that the advertising can be approved or disallowed depending on the sizes stipulated above.

4.3.2 Measuring Procedures

The size of a commercial trademark is the surface area within a line that follows the actual outline of the full trademark. If the trademark is contained within an area of different color, the total surface area having a different color from the competition clothing is to be measured.

4.3.3 Text or Letters

If the text is within a line or color boundary, the applicable shape formula is to be used. If the text or letters stand out on the general garment

background, the outline of the outermost tips of the letters will be traced and the area of the shape thus created will be calculated.

4.3.4 Measurement of Geometric Shapes

The surface area of a square, rectangle, triangle, circle or polygon will be determined using the standard geometric formula. If there is doubt about whether a polygon is a polygon, it is to be measured as irregular.

4.3.5 Irregular Shapes

If the appropriate equipment is available, a computer scanner may be used to determine the surface area. If no computer devices are available, a string must be used to trace the outline to determine the number of cm² in the area.

4.4 PRELIMINARY EXAMINATION OF ADVERTISING

In cases of doubt about the size of advertising, NFs are requested to send an actual size fax or photocopy to the IBU IBUas early as possible before the start of the competition season so that its size can be determined. If there is uncertainty about any advertising after the start of the competition season, NFs will be requested to present the items at the latest at the preliminary inspection of materials/equipment and clothing for the respective event.

5. INSPECTION PROCEDURES

5.1 GENERAL

Competition and host venue equipment must undergo inspection to ensure that all materials are in compliance with all IBU regulations.

5.2 COMPETITION EQUIPMENT

The inspections that competition equipment must undergo are detailed in the IBU Event and Competition Rules. Inspections will be conducted primarily by the organizing staff appointed for that purpose and by the Materials Inspection IR responsible for an event. Competition juries, RD, TDs and IRs are responsible for the effective and correct implementation and enforcement of materials inspections.

5.3 ORGANIZATION EQUIPMENT

TDs and IRs are responsible for ensuring that host venue equipment used within their area of responsibility is functional and conforms to all IBU regulations.

5.3.1 Specific Checks

5.3.1.1 Targets

- a. placement and levels;
- b. functioning, paint and maintenance;
- c. deformation of face and target plates;
- d. condition of moving parts;
- e. position of wires and cables;
- f. diameter measurement of target apertures;
- g. centering of prone apertures;
- h. strike test of target release impulse;
- i. routing of reset ropes in mechanical systems;
- j. backup system for those systems that require electrical power.

5.3.1.2 Timing Systems

- a. principle of operation;
- b. functioning and maintenance;
- c. backup and outage reserve systems;
- d. power sources;
- e. placement of sensors;
- f. computer capabilities, including speed of producing printed results;
- g. interface with electronic target systems.

5.3.1.3 Computers for Start Number Draws

- a. functioning and maintenance;
- b. printers;
- c. display device, projector;
- d. software program – validity, possibility of manipulation;
- e. backup and spares;
- f. total system interfaces and placement;
- g. speed of producing start lists.

5.3.1.4 Other Organizational Equipment (in IBU Event and Competition Rules)

- a. wind flags – placement, operation, specifications;
- b. relay cups – placement, specifications;

- c. shooting mats – placement, specifications;
- d. rifle racks – construction, placement, and markings;
- e. lane markers – placement, color, no interference with shooting;
- f. numbering and signage – placement, sizes, colors.

5.4

INSPECTION INSTRUMENTS, TOOLS AND MATERIALS

The following is a list of devices required for equipment/material inspections and other checks that should be available to the responsible officials:

- a. measuring tapes (50 or 100 m) – for various measurements: range, penalty loop;
- b. water/bubble levels – for checking level of targets;
- c. radar chronograph – for checking ammunition velocity;
- d. strike tester – for target plates;
- e. centering template – for prone target apertures;
- f. weigh scale – for weighing rifles and skis;
- g. templates – for measuring rifle dimensions;
- h. calipers, rulers – for measuring the dimensions of rifles, skis, advertising;
- i. trigger weights – for measuring trigger resistance;
- j. stickers, paint – for applying inspection markings.

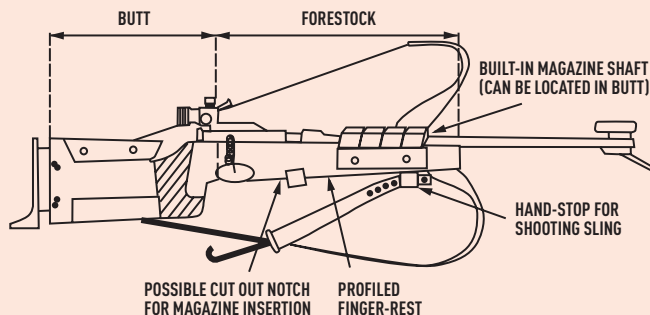
TABLE 1 BIATHLON RIFLE DIAGRAM

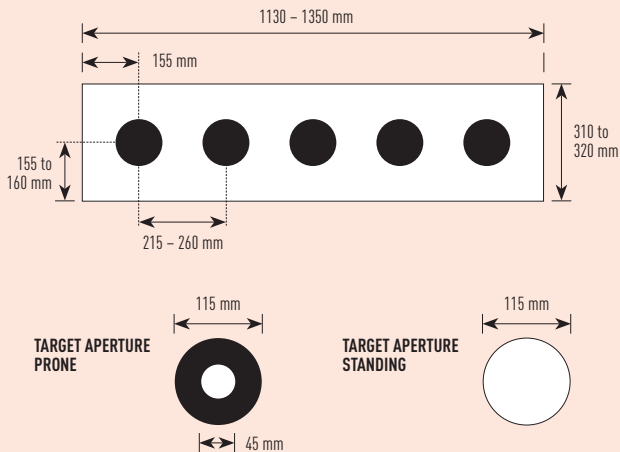
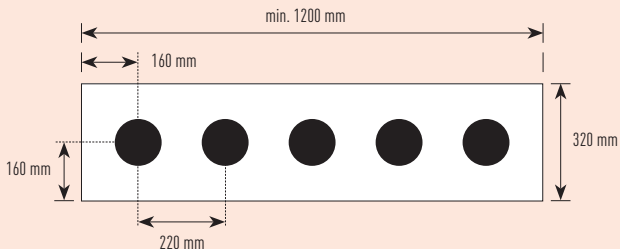
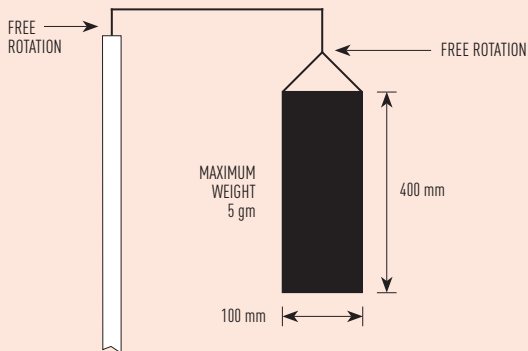
TABLE 2 STANDARD DIMENSIONS FOR METAL TARGETS**TABLE 3 STANDARD DIMENSIONS FOR PAPER TARGETS**

TABLE 4 EXAMPLE OF A WINDFLAG

4

ANNEX B

DUTIES OF THE COMPETITION JURY, TECHNICAL DELEGATES AND INTERNATIONAL REFEREES

LIST OF CONTENTS

1.	Competition Jury	21
2.	Technical Delegates	23
3.	International Referees	29

1. COMPETITION JURY

1.1 GENERAL

The powers, election, composition and various procedures of competition jury operations are detailed in the IBU Event and Competition Rules. This Annex provides additional procedural directives and the specific tasks of the competition jury.

1.2 SUBSTITUTE CHAIRPERSON

If the competition jury chairperson is absent, the remaining jury members will appoint a replacement from among themselves to chair the meeting.

1.3 COMPETITION JURY MEETINGS

The competition jury will meet when so directed by the competition jury chairperson. Meetings will normally be held as follows:

- immediately after the team captains meeting where it was elected;
- approximately one hour before the start of the competition;
- at any time during the competition when directed by the competition jury chairperson;

- d. immediately before the last finish in the competition, or as soon as possible after the last shooting bout;
- e. at any other time when a meeting is called by the competition jury chairperson.

1.4 DUTIES OF THE COMPETITION JURY

The competition jury has the following duties:

1.4.1 Prior to the Competition

- a. to check if the competition venue is in compliance with the rules;
- b. to check the eligibility of all competitors registered for the event;
- c. to supervise the draw;
- d. to determine if a competition has to be postponed or annulled due to serious difficulties (such as extremely unfavorable weather conditions – extreme cold, high winds, etc.);
- e. to restrict or prohibit training on the competition venue due to adverse circumstances such as very wet snow or very little snow that could jeopardize the conduct of the competitions;
- f. to decide if, and under which conditions, a late entry may be accepted;
- g. to decide if a competitor properly entered for participation may be replaced by a substitute in the case of force majeure;
- h. to decide on protests concerning the eligibility of competitors;
- i. to check if the qualification records of a competitor submitted by a NF permit the competitor's participation in an IBU event, or if the competitor must be denied starting;
- j. to appoint a competition jury member to be permanently present on the range during the competition;
- k. to appoint a competition jury member to assist at the inspections of the equipment;
- l. to order ammunition checks, if required.

1.4.2 During the Competition

- a. to ensure that the competition is conducted according to the IBU Event and Competition Rules;
- b. to direct the necessary measures if difficulties arise – such as heavy fog or a storm – that could seriously endanger the correct and fair conduct of the competition: an extreme option may be to stop the competition;
- c. to decide on the admission of competitors who arrive late at the start due to force majeure.

1.4.3 After the Competition

- a. to oversee the critical process that begins immediately after the last finish, relating to the authorization of the unofficial awards ceremony and the posting of provisional results;
- b. to decide on protests;
- c. to impose or reject the penalties reported by the TDs, IRs, competition jury members and officials of the organizing committee;
- d. to determine necessary time adjustments;
- e. to annul a competition, if necessary;
- f. to order the repeat of a competition, if justified and possible.

1.4.4 Before, During and After the Competition

The competition jury must be prepared at all times to decide on all matters that are not covered in the Rules or other IBU regulations.

2. TECHNICAL DELEGATES

2.1 GENERAL

Regulations for the selection, appointment and general duties of TDs are given in the IBU Event and Competition Rules. This Annex provides more specific guidelines for the performance of TD duties. TDs appointed for IBU events must consult both this Annex and the IBU Event and Competition Rules.

2.2 PRINCIPLES OF THE TD FUNCTION

TDs have three primary functions at an IBU event:

- a. to represent the IBU in a technical capacity;
- b. to ensure that the event and its competitions are conducted in accordance with the IBU Event and Competition Rules and with other pertinent IBU regulations;
- c. to act as a consultant and advisor to the OC to ensure that the competitions are held as well as possible.

As well, the TD is always the competition jury chairperson, an extremely important position. Additionally, the TD functions as the leader of the IBU technical group, made up of IRs.

TDs must conduct their duties with dignity, competence, caution and objectivity. They must treat competitors, team staff, OCs and IRs with respect

and must demand to be treated with the same respect, as the technical representative of IBU, by all persons involved with the event. TDs must stop all attempts by anyone to interfere with their work or to usurp their authority or mandate. In serious cases of interference, TDs must report the circumstances to the IBU and to the IBU Race Director. OCs, teams and IRs must follow the directions given in accordance with the IBU regulations by the TD in the organization and conduct of the event.

2.3 CONTACT WITH OCS AND SITE VISITS

2.3.1 Establishing Contact

As soon as the TDs have been appointed for the various events, the IBU must inform the OCs of what TDs have been appointed for the following season. Normally the OCs will contact the TD shortly after being advised.

2.3.1.1 Continuing Contact and Problem Solution

After initial contact is established, the TD and OC may communicate as necessary. However, it is advisable to forward copies of all written correspondence to the IBU. If any problems arise with the OWG or WCH, the IBU must be informed immediately.

2.3.2 Inspections and Site Visits

TDs should inspect the site of the events for which they have been appointed in time to advise of necessary changes to the facilities or plans, and to give timely assistance to the OC. Inspections are to be made as follows:

2.3.2.1 OWG

Normally both TDs should first visit the site for an inspection and meetings shortly after the host of the Games has been announced.

The visit is to be organized in consultation with the IBU and the OCs. Further visits will be made as necessary. The WC RD serves as the Asst. TD at the OWGs.

2.3.2.2 WCH and Y/JWCH

The TD must inspect the competition venue not later than eight months prior to the beginning of the event.

2.3.2.3 WC, CCH and CC Events

The inspection must be made not later than four months before the event. If the OWG, WCH, Y/JWCH or WC event have been held on the site within the previous two competition seasons, it will not be necessary to make an inspection prior to the coming event. However, if major changes have been made or if the OC wishes an inspection, the TD will inspect.

2.3.3 Areas to be inspected

During the inspection the following must be confirmed:

- a. The competition venue must be in accordance with the IBU Event and Competition Rules;
- b. All preparations for the event must be in accordance with the IBU Event and Competition Rules;
- c. The structure of the organizing committee must be appropriate and the officials appointed for the event must be properly trained and prepared, and a sufficient number have the required IR license;
- d. Accommodation and food arrangements for teams must meet the requirements, including costs per person for full board;
- e. Transport plans must be functional and distances within the allowed limits;
- f. Rifle and ammunition import and export laws and the storage arrangements made for the rifles and ammunition must be clear;
- g. Appropriate publicity arrangements must have been made with the press, radio and TV;
- h. Measures for conducting doping controls and blood tests must have been arranged;
- i. All required safety precautions must have been implemented.

2.3.4 Inspection Reports

TDs must provide a written report of their inspections to the IBU and the chairperson of the organizing committee immediately following the inspection. The reports should in particular address unresolved problems and unsatisfactory situations, and must also include the information in the following format:

- a. Title name of event, location, date(s) of inspection;
- b. Inspection party: names and roles of persons who participated in the inspection;
- c. Inspection routine: meetings, venue inspections;
- d. Site and venue description: general location and character of the site,

description of the venue course, stadium, shooting range, etc.;

- e. Organizing committee: general structure, numbers of appointed officials, relevant training and qualifications;
- f. Hosting arrangements: accommodation, meals, transport, ceremonies, social events, media, costs;
- g. Problem areas;
- h. Conclusion – general summary.

2.3.4.1 TDs who are members of the IBU TC must present their report at the next TC meeting following the event.

2.4 TD TASKS AT EVENTS

TDs must perform the following tasks at events:

2.4.1 Tasks Prior to Events

TDs must arrive in due time before the start of the official training to check whether the competition venue meets all requirements for training and competition and to ascertain where changes are required. They must make immediate contact with the organizing committee to ensure that:

- a. team captains meetings and draws are prepared;
- b. arrangements for the assembly of the juries have been made;
- c. the entries of the participating nations were received in time;
- d. corresponding plans for the reception of the teams are ready;
- e. the costs for the teams are the same as those stated in the application to host the event.

2.4.2 Duties During Events

2.4.2.1 General

The TD must work closely with the Competition Chief during the event and each competition, ensuring that all operations are conducted correctly, without incidents and in accordance with the IBU Event and Competition Rules and other pertinent IBU regulations.

2.4.2.2 Meetings

The TD must take part in all the meetings of the organizing committee, the team captains and the competition juries, as well as at all draws.

2.4.2.3 Responsibility to IRs

The TD must keep IRs briefed on the current situation and engage in their activities in a directing and coordinating manner.

2.4.2.4 IBU Race Director

The TD must communicate and cooperate with the IBU Race Director.

2.4.3 Tasks Prior to Competitions

2.4.3.1 TV Zones

The TD must assist the IBU Race Director and TV advisor to establish TV zones in consultation with TV representatives, IR Course and the OCs, including location, size, required fencing and enforcement methods and personnel.

2.4.3.2 Information Channels

The TD must hold a meeting with the IRs to brief the IRs on the plans for the competition and the telecommunications available during the competition, and to assign duties. This meeting can also be combined with the meeting that is held by the Competition Chief with the chief staff prior to each competition.

2.4.3.3 Inspections

The TD must make a general inspection of the venue.

2.4.3.4 Reports

The TD must obtain status reports from the IRs and the Competition Chief.

2.4.3.5 Competition Jury Meeting

The TD must hold a meeting of the competition jury one hour before first start to determine if conditions are suitable for the competition. The TD must obtain reports from the IRs about their areas of operation and from the Competition Chief prior to this meeting.

2.4.4 Tasks During Competitions

2.4.4.1 General

The TD must oversee and coordinate the work of the Competition Chief and the IRs, receive reports on the progress of the competition and take remedial actions as necessary.

2.4.4.2 Competition Jury Meetings

The TD must convene meetings of the competition jury as required.

2.4.5 Tasks After Competitions

2.4.5.1 Last Finish

With the Competition Chief, the TD must direct and coordinate the critical phase that starts immediately after the last finish.

2.4.5.2 Provisional Results

The TD must confirm the correctness of the provisional results, sign the result lists and authorize their posting, and record the time of posting on the results.

2.4.5.3 Flower Ceremony

TDs will authorize the conduct of the unofficial awards ceremony when they are satisfied that the first necessary placings have been confirmed. It must be noted that the results may subsequently be contested and that the unofficial ceremony will be held at the OC's own risk.

2.4.5.4 Event Points

The TD must ensure that the OC calculates the WC, Nations Cup or other applicable event points correctly.

2.4.5.5 Evaluation

The TD must hold a competition evaluation meeting with the Competition Chief, the chief staff and the IRs.

2.4.6 Tasks after the Event

2.4.6.1 WC Points

The TD must ensure that the lists of WC, Nations Cup or any other event points are sent immediately to the next host of the WC or other event.

2.4.6.2 Event Evaluation

The TD must hold a meeting for all chief organizing committee staff and IRs to evaluate the entire event.

2.4.6.3 Written Report

The TD must compile a written report about the event and send it to the IBU, to the event host and the chairperson of the organizing committee not later than one month after the event. An IBU TD report form made for this purpose will be distributed by the chairperson of the TC Referee Sub-Committee to all TDs appointed for the coming season.

2.4.6.4 Report at TC Meeting

IBU TDs who are members of the TC must give a report on the event at the next meeting of the IBU TC.

3. INTERNATIONAL REFEREES

3.1 GENERAL

The general regulations for the selection, appointment and the work of IRs are provided in the IBU Event and Competition Rules. This Annex supplements the general regulations by detailing specific duties of IRs.

3.1.1 Principles of the IR Function

IRs, like TDs, have the responsibility of being the technical representatives of the IBU at an event, in their area of responsibility and under the direction of the TD. Within their area of responsibility, all of the principles that apply to the TD function apply to IRs, except being in the competition jury.

3.1.2 Notification of Appointment and Preparation

Shortly after being appointed for an event, IRs will be notified of their appointment by the IBU. The IRs will not be required to establish formal contact with the OC except for travel and accommodation arrangements. Once notified of their appointment, the IRs must prepare so that they are fully conversant with the current IBU rules and regulations for their area of responsibility.

3.2 IR DUTIES AT EVENTS

IRs will have the following duties at an event:

3.2.1 Duties Prior to Events

IRs must arrive at the event site in time to prepare prior to the first official training; the IR Materials Inspection must arrive in time for the preliminary inspection of equipment. On arrival they must report to the TD to announce their presence and to receive briefings and directions. Then they must contact the chiefs from the organizing committee for their areas of responsibility, review arrangements, and inspect their areas. The checklist in the Organizers' Guide should be used as a guide. If there are problems, they must be reported to the TD.

3.2.2 Tasks Prior to Competitions

In preparation for each competition, the IRs must:

- a. attend all team captains meetings, any other meetings as directed by the TD and meetings held by the chiefs of their areas;

- b. carry out a detailed inspection of their areas and check all plans using the checklist to ensure they are in accordance with the Rules, and direct corrections to be made as necessary;
- c. remain in their areas to oversee preparations and activities;
- d. report to the TD when their areas are ready for the competition;
- e. carry out other tasks as directed by the TD.

3.2.3 Tasks During Competitions

During each competition the IRs must:

- a. remain in their areas to supervise all activities to ensure the correct and orderly conduct of the part of the competition that is their responsibility;
- b. intervene to stop an error from being made;
- c. assist and advise the organizing committee officials if required;
- d. ensure all safety precautions are being adhered to;
- e. report to the TD when significant occurrences take place such as first start, last start, first shooter on the range, last shooter on the range, first finish, etc., and if any unusual incident occurs such as an injury, etc.;
- f. observe violations of the Rules and report them to the TD;
- g. carry out any other tasks as directed by the TD.

3.2.4 Tasks After Competitions

At the end of each competition IRs must:

- a. report to the TD that all is clear for their area, or report the problems that have occurred and have not been previously reported; these reports must be made immediately if possible, in order to assist the speedy posting of the provisional results and the conduct of the unofficial awards ceremony;
- b. report to the competition jury about the circumstances of penalties, when so directed;
- c. hold a short evaluation meeting about the competition for the chief and supervisors of the respective area.

3.3 IR AUTHORITY, RESPONSIBILITIES AND ORGANIZATIONAL RELATIONSHIPS

3.3.1 Authority

IRs are responsible and subordinate to the TD for the appropriate preparations and the correct and orderly conduct of competitions in their areas of responsibility. IRs will not be in charge of the conduct of activities

in their areas, but will be responsible for ensuring that all routines are correct. They must maintain close contact with the chiefs of their areas during the entire event in order to fulfill their tasks.

3.3.2 Specific Areas of Responsibility

The specific areas of responsibility for IRs within their general areas are as follows:

- a. IR Course: all course matters including configurations of loops, technical specifications, grooming, signage and fencing, inspection and checkpoints, access control, TV zones layout and their enforcement, forerunners, communications, safety and first aid arrangements;
- b. IR Range: all range matters including layout and configurations, specifications, targets and their operation, penalty loop, coaches enclosure, signage and numbering, lane markings, wind flags, rifle racks, grooming, scoring, control procedures, telecommunications, and safety;
- c. IR Start/Finish: all start/finish area matters and timing systems including layout, configurations, specifications, relay hand-over zone, start clock and course sequence board, photo-finish camera for pursuit, mass start and relay competitions, acting as the photo-finish judge, and finish video camera for all competitions, warm-up area, storage areas for competitors' clothing, grooming, signage and fencing, traffic flow and control, start and finish procedures, telecommunications, timing procedures and equipment, and safety;
- d. IR Materials Inspection: all equipment/materials inspection matters including timings, inspection equipment, preliminary equipment/materials inspection, start and finish inspection layouts (in consultation with IR Start/Finish), inspection procedures, traffic flow and control, telecommunications, and safety.

3.3.3 Organizational Relationships

The primary relationships for IRs with the organizing committee (direct liaison) will be as follows:

- a. IR Course – Chief of Course;
- b. IR Range – Chief of Range;
- c. IR Start/Finish – Chief of Timing (may be regulated differently by some OCs);
- d. IR Materials Inspection – Chief of Timing and/or Materials Inspection Supervisor.

TRAINING AND LICENSING OF TECHNICAL DELEGATE AND INTERNATIONAL REFEREES

LIST OF CONTENTS

1.	General	32
2.	Selection, Training and Testing	34
3.	Licensing	38
4.	Qualification and Appointment Badges	40
5.	Employment of TDs and IRs	41
6.	Financial Matters	42

1. GENERAL

The IBU has a training, licensing and employment system for technical officials in order to ensure that all IBU officials working at IBU events perform their duties effectively and correctly, with a common training standard. The Rules direct the appointment and duties of technical officials (TDs and IRs) for IBU events. This Annex details the training, testing, licensing and employment conditions for technical officials.

1.1 JURISDICTION

All aspects of selection, training, testing and licensing of biathlon technical officials at international level is to be under the jurisdiction of the IBU TC. The TC member in charge of referees will be responsible for implementation and administration of the system applying to officials.

1.1.1 Liaison

NFs may discuss matters concerning technical officials directly with the TC member in charge of referees or the IBU. NFs will be requested to appoint a contact person within their area responsible for technical

officials and to provide the TC member in charge of referees with the contact information for that person.

1.2 QUALIFICATION LEVELS

There are two levels of qualification for IBU technical officials:

- a. Technical Delegate (TD);
- b. International Referee (IR).

1.2.1 Intended Roles of TDs and IRs

Officials will be trained and licensed for the following purposes:

1.2.1.1 TDs

The TD qualification is primarily intended to train an official to function as a TD at IBU events. Persons qualified to be a TD may also fulfill any IR function at IBU events and may hold positions corresponding to those of an IR in an organizing committee.

1.2.1.2 IRs

The purpose of the IR qualification is to train and certify officials who can function in IR positions at IBU events and who can hold IR designated positions in organizing committees. As well, the certified IRs will form the pool of qualified persons from which candidates will be selected for further training for the TD qualification.

1.3 ELIGIBILITY FOR APPOINTMENT

In order to be eligible for appointment to function as a TD or IR at IBU events, officials must hold the necessary qualification and the required valid license for the position.

1.4 AGE LIMITS

The following age limits will apply for the certification and employment of TDs and IRs:

1.4.1 TDs

1.4.1.1 TD Test

Persons wishing to sit the TD qualification test must be at least 28 and not older than 55 years of age.

1.4.1.2 Assignment of function of TD at an IBU Event

Persons may not be assigned the function of TD at an IBU event if they are older than 65 years of age.

1.4.2 IRs**1.4.2.1 IR Test**

Persons wishing to sit the IR qualification test must be at least 22 and not older than 57 years of age.

1.4.2.2 Employment as IR at an IBU Event

Persons may not be employed as an IR at an IBU event if they are older than 65 years of age.

1.5 TERMINOLOGY

It must be noted that the terms TD and IR are the names of both the levels of qualification and the position titles when appointed for an IBU event. Should confusion arise in the use of the terms for both purposes in one context, the qualification terms will be indicated as TD (Q) and IR (Q)

2. SELECTION, TRAINING AND TESTING

Selection, training and testing of candidates for TD and IR qualification will be done as follows:

2.1 SELECTION PROCEDURE FOR CERTIFICATION**2.1.1 TDs**

Candidates for TD qualification will be selected by the IBU TC from among the qualified IRs, based on observed performance. However, NFs may nominate suitable IRs as candidates for consideration by the TC.

2.1.1.1 TD Prerequisites

- a. Candidates must have clearly proven his suitability as an IR and must be able to function in a senior leadership role in conditions of extreme stress and in view of the fact that an error could have the highest level of consequences. In addition, they must be capable of negotiating and liaising successfully with senior members of organizing committees, representatives of the media and with dignitaries;
- b. The candidate must have and have held a valid IBU IR license for at least four years and must have officiated in at least two international

- events during the past four years;
- c. The candidate must be within the TD age limits.

2.1.1.2 TD Quota

Candidates will be selected for TD training and certification in sufficient numbers to maintain the required number of TDs within the TD Group and the necessary reserves as determined by the TC.

2.1.2 IRs

2.1.2.1 IR Applications

Candidates will be selected for training and licensing as IRs based on a nomination by their NF, in writing, to the TC member in charge of referees. Applications must be sent by the deadline date given in the seminar invitation or by 31 May in the case of a test under special circumstances. Applications must include the following information:

- a. full name, date and place of birth, gender, nationality, full residence, address, phones, fax, e-mail address;
- b. mother tongue and command of other languages;
- c. language in which the test is to be held;
- d. seminar location and dates;
- e. length and type of experience as a national referee.

2.1.2.2 IR Requirements

All candidates must meet the applicable prerequisites for IRs. NFs will be required to screen their nominations with regard to general suitability and prerequisites, and to confirm in their nominations that the person meets all necessary criteria. Final acceptance of a candidate into the program will then be decided by the IBU TC.

2.1.2.3 IR Prerequisites

- a. The candidate must be able to perform very responsible duties with a high consequence of error under stressful circumstances, in winter outdoor conditions, for long periods of time. The candidate must have sufficient skills in cross-country skiing to be able to ski on the competition course as necessary;
- b. The candidate must have and have held a valid national referee license for at least four years;
- c. The candidate must be within the IR age limits.

2.1.2.4 IR Quota

There is no set limit for numbers of IRs.

2.1.3 The TD Group

The TD Group will be established under the control of the TC and will consist of 30 or more qualified TDs with the applicable licenses plus all of the members of the TC – i.e. a total of 40 or more. All TDs appointed for IBU events must be from the TD Group. There should be at least one TD from every continent in the TD Group. TDs must retire from the TD Group when they reach the age of 65.

2.2 TRAINING

2.2.1 General

Training of TDs and IRs will be conducted at seminars instructed by members of the IBU TC. Seminars will be held in various regions of the world, according to requirement. The scheduling of the seminars will be decided by the IBU EB based on recommendations of the TC. TD seminars will be held at least once every two years.

2.2.2 Seminar Specifications

The following specifications will apply to TD and IR seminars:

2.2.2.1 TD Seminars

- Duration – 22 hours, including the test;
- Candidates – maximum 15, minimum 5;
- Instructors – IBU Race Director, TC member in charge of referees plus one or two other members of the TC as directed by the TC;
- Language – English and/or German or Russian with translation as required.

2.2.2.2 IR Seminars

- Duration – 18 hours, including the test;
- Candidates – maximum 25, minimum 5;
- Instructors – two members of the TC appointed by the TC member in charge of referees
- Language – as required.

2.2.3 Attendance of Observers

The TC may authorize the attendance of observers at IR seminars. These persons will normally be national referees who will not sit any test, or

qualified IRs who are doing refresher training for themselves, or other interested persons.

2.2.4 NF Sponsored Seminars

A seminar with a test may be held at the request of a NF if there are a sufficient number of eligible candidates, and the NF(s) will pay all costs for instructors provided by the IBU and the seminar. The final decision for the approval of such a seminar will rest with the IBU TC.

2.2.5 Seminar Content

The TD and IR seminars will be held in accordance with a standardized seminar training plan established by the TC for them and which will include:

- a. General information about the biathlon TD and IR system, the IBU, definitions, history;
- b. Classes of competitors and types of competitions, competitor qualification Entries;
- c. Organizations and duties: organizing and competition committees, juries, TDs, IRs;
- d. Preparations for competitions: training, team captains meetings, draws, venue preparations, equipment checks, zeroing;
- e. Implementation of competition Rules: use of the Rules and regulations, equipment and measuring devices, advertising, start, skiing, shooting, finish, penalties and protests;
- f. Competition activity: supervising officials, monitoring competition activity, timing, forms, results, communications and reports;
- g. Case studies [competition jury cases, etc.] – at TD seminars only;
- h. Test.

2.3 TESTING

All TD and IR candidates must successfully complete a written test or oral examination in order to become a qualified TD or IR. The test will be conducted in conjunction with TD and IR seminars; in exceptional circumstances the TC may set other test dates.

2.3.1 Test Formats

Tests will be formulated by the TC member in charge of referees, with changes for each individual test. The candidates will be asked questions that will test skills required by TDs and IRs for conducting their duties.

Tests must be done without the use of any reference material. The following test specifications will apply:

- a. Questions – TD: 35, IR: 25;
- b. Allowed time – 120 minutes;
- c. Pass Grade – if 80 % of all questions have been answered correctly.

2.3.2 Scoring of Tests

Tests will be marked according to the standard marking guide established by the TC.

2.3.3 Supplementary Questions

The TC may direct that supplementary questions are to be answered during the test.

2.3.4 Test Languages

TD tests must be given and answered in English; however the TC may authorize exceptions as required. IR tests may be administered in any language, as appropriate for the circumstances.

3. LICENSING

3.1 RECOGNITION OF QUALIFICATION

Following attendance at a seminar and completion of the test to the required standard, successful TD and IR candidates will be reported to the next meeting of the IBU TC. If no other circumstances exist as grounds for denial, the TC will appoint all persons who have passed the seminar and test TD or IR, respectively.

3.2 ISSUE, FORMAT, VALIDITY AND CONDITIONS FOR LICENSES

3.2.1 Issue

Following approval by the TC, a license will be issued to a TD or IR and will be effective from the date of the issue.

3.2.2 Format

Licenses issued to IRs and TDs must contain the following information:

3.2.2.1 TD and IR

- a. type of qualification – TD or IR;
- b. full name, date of birth, gender, nationality;
- c. period of validity and extensions;

- d. photo of the holder, impressed with the IBU seal;
- e. signature of the chairperson of the TC or his/her appointee.

3.2.2.2 TD – Additional Information

- a. record of employment at IBU events signed by the TD of the event – or the chairperson/competition chief of the organizing committee if the license holder served as the TD there – and must be stamped with the OC's seal;
- b. qualification record – dates of qualification as national referee, IR and TD;
- c. record of IR and TD seminars attended;
- d. biennial license validity stamp.

3.2.3 Periods of Validity

TD and IR licenses are valid for two years (TD) and for four years (IR) from the date of issue and may be renewed for further such periods without any other limit than the age, and as long as no factors exist as grounds for denying a renewal.

3.2.3.1 Renewal Process

TD and IR licenses may be renewed after the expiry of their validity period. For this purpose the NF of the official must submit a written request, accompanied by the license, to the TC member in charge of referees. Requests for renewal must be submitted prior to the expiry date of the license for IRs, and by 31 May prior to expiry for TD licenses.

3.2.3.2 Biennial Validation of TD Licenses

NFs or TDs must send TD licenses for biennial validation to the TC member in charge of referees by 30 April of a given year. If all circumstances are in order, the license will be stamped in the biennial validation record and returned.

3.2.3.3 Retention of TD License

Even though a TD is no longer a member of the TD Group for reasons other than age, disciplinary reasons or incompetence, his license may be renewed and validated, as long as all other factors required for its validity are maintained.

3.2.4 Revoking a License

A license may be taken away from a TD and IR for disciplinary reasons or for other reasons having to do with that person. The process for revoking

a license will be initiated by a corresponding recommendation by the TC member in charge of referees to the TC. After thoroughly investigating all circumstances relating to the case, the TC may recommend that the IBU EB revoke the license, subject to the provisions of the IBU Disciplinary Rules.

4. QUALIFICATION AND APPOINTMENT BADGES

Distinctive qualification and appointment badges and markings will be issued to TDs and IRs. It is the right of every TD and IR with a valid license to wear the appropriate qualification badge at any time.

4.1 QUALIFICATION BADGES

Badges of qualification will be issued to TDs and IRs at the same time as their licenses are granted, as follows:

4.1.1 TD

TDs will be issued a metal badge of gold color with the IBU Logo and the words “Biathlon Technical Delegate” imprinted. Prior to issue, the name of the recipient will be engraved on the badge.

4.1.2 IR

IRs will be issued a white- and gold-colored metal badge with a biathlete figure and the words International Referee imprinted. As well, each IR badge will have an imprinted sequential issue number.

4.2 APPOINTMENT MARKINGS

TDs and IRs appointed to specific positions as TDs and IRs at IBU events will be issued a distinctive marking to identify them as having responsibility for that position. The markings may be a badge, armband or item of clothing and must clearly indicate the bearer’s IBU TD or IR qualification, as appropriate. The IBU TC will periodically direct what types of marking will be used by what TDs and IRs appointed for what IBU events.

5. EMPLOYMENT OF TDs AND IRs

5.1 GENERAL

TDs and IRs will be appointed for OWG, WCH, Y/JWCH, WC, CCH, CC, Continental Games, CISM, EYOF, the University Games and other IBU events by the IBU TC based on the recommendation of the TC member in charge of referees. TDs for events not under IBU jurisdiction will be appointed only if requested by the responsible body for the event.

5.1.1 New TD Employment

Newly-qualified TDs may be employed only as IRs at IBU events during the first two years after their qualification. The TC may authorize exceptions to this restriction if circumstances so demand.

5.2 EMPLOYMENT GUIDELINES

Appointment of TDs and IRs is to be based on the principle of utilizing the best and the most experienced officials for each event while at the same time providing development opportunities for less experienced officials. Factors such as language capability and travel costs must be considered as well. As many different officials as possible should be employed on an alternating basis.

5.2.1 OWG Preparation

Senior officials of the Organizing Committee for the next OWG, such as the Competition Chief, Chiefs of Course, Range and Timing should be considered as candidates for TDs and IRs at a preceding WCH, if appropriate and possible.

5.2.2 Regulations for the Employment of Officials

The TC will appoint the TDs and IRs from among its members and the TD group for the following IBU events:

- a. OWG – TD, 8 IRs
- b. WCH – TD, 4 IRs
- c. Y/JWCH – TD, 4 IRs
- d. WC – TD, 4 IRs
- e. OECH – TD, 4 IRs
- f. IBU Cup – TD, 1 IR IBU, 3 IR NF
- g. Other CCH – TD NF

- h. Other CC/Regional Cup – TD NF
- i. Summer WCH – TD, 1 IR IBU, 3 IR NF
- j. Summer OECH – TD, 1 IR IBU, 3 IR NF
- k. YOG, CISM, University Games, Continental Games, EYOF – TD

6. FINANCIAL MATTERS

6.1 TD AND IR EXPENSES

TDs and IRs will receive a daily allowance for each travel and work day arising from IBU duties, and reimbursement of travel expenses, in accordance with the current IBU Rules for Travel Expenses.

6.2 FINANCIAL CONDITIONS FOR SEMINARS AND TESTING

Financial remuneration for TDs and IRs holding seminars and tests will be directed by the IBU EB.

4

ANNEX D

SUMMER BIATHLON COMPETITION RULES

LIST OF CONTENTS

1.	General Regulations	43
2.	Cross Biathlon	44
3.	Roller Biathlon	47
4.	Mountain Bike Biathlon	48

1. GENERAL REGULATIONS

1.1. DISCIPLINES OF SUMMER BIATHLON

Summer Biathlon can be carried out in the following disciplines:

- cross-country running with shooting (cross biathlon)
- roller-skiing competitions with shooting (roller biathlon)
- mountain bike cycling with shooting (mountain bike biathlon)

1.2. COMPETITION SCHEDULE FOR SUMMER BIATHLON

The summer biathlon season starts in June and ends in October annually.

The summer biathlon competition program includes:

- 3 Roller Cups,
- 2 Cross Cups,
- 1 OECH (Cross)
- 1 WCH (Roller)

National federations are requested to send their national schedule of all summer biathlon events to the IBU headquarters by 1 April annually.

1.3. APPLICABLE RULES

The IBU Event and Competition Rules will apply to the conduct and set-up of summer biathlon competitions and venues with the exception of the regulations contained in the following annex. An IBU B license is required to host SB Roller Cups, the OECH and the WCH.

1.4. REGISTRATION AND ENTRY

Each national federation may register 8 and enter 8 competitors in Cross Cups and Roller Cups. At OECH and the WCH each national federation may register 6 and enter 6.

In the relay competition, only one team may be entered per NF. The hosting NF may register and enter more athletes if the RD/ TD agrees. The additional athletes must be entered in an extra draw group placed before the normal draw groups.

2. CROSS BIATHLON

2.1 DEFINITION

Cross biathlon is conducted in the combination of cross-country running and small-bore shooting. Rifles are not carried by the athlete but left at the shooting range.

2.2 CROSS BIATHLON SPECIFICATIONS

2.2.1 Rules Specifications

All competitors will be permitted to finish the competition.

All athletes are responsible for picking up their rifles before shooting and to leave them at the assigned rifle rack after shooting. Competitors must deposit their rifles in the racks not later than 5 minutes before the first start, and will not be permitted to start if they have not done so. Rifles must not be removed from the racks until the entire competition is finished and all of the rifles have been inspected by the IR.

2.2.2 COMPETITION SPECIFICATIONS

Cross biathlon will be conducted according to the following table:

Class of Competitor	Course Length and Competition	Shooting Bouts 5 Rounds per Bout except Relay	Shot Penalty
MEN	7 KM INDIVIDUAL	P, S, P, S	30 seconds
	4 KM SPRINT	P, S	70 m penalty loop
	6 KM PURSUIT	P, P, S, S	70 m penalty loop
	6 KM MASS START	P, P, S, S	70 m penalty loop
	4 x 4 KM RELAY	P, S (each) + 3 spare rounds per bout	70 m penalty loop
WOMEN	6 KM INDIVIDUAL	P, S, P, S	30 seconds
	3 KM SPRINT	P, S	70 m penalty loop
	5 KM PURSUIT	P, P, S, S	70 m penalty loop
	5 KM MASS START	P, P, S, S	70 m penalty loop
	4 x 3 KM RELAY	P, S (each)+ 3 spare rounds per bout	70 m penalty loop
MEN & WOMEN	2 x 3 + 2 x 4 KM Mixed Relay	P, S (each) + 3 spare rounds per bout	70m penalty loop
JUN. MEN	7 KM INDIVIDUAL	P, S, P, S	30 seconds
	4 KM SPRINT	P, S	70 m penalty loop
	6 KM PURSUIT	P, P, S, S	70 m penalty loop
	6 KM MASS START	P, P, S, S	70 m penalty loop
	3 x 4 KM RELAY	P, S (each) + 3 spare rounds per bout	70 m penalty loop
JUN.WOMEN	6 KM INDIVIDUAL	P, S, P, S	30 seconds
	3 KM SPRINT	P, S	70 m penalty loop
	5 KM PURSUIT	P, P, S, S	70 m penalty loop
	5 KM MASS START	P, P, S, S	70 m penalty loop
	3 x 3 KM RELAY	P, S (each) + 3 spare rounds per bout	70 m penalty loop
JUNIOR M & W	2 x 3 + 2 x 4 KM Mixed Relay	P, S (each) + 3 spare rounds per bout	70m penalty loop

TOTAL CLIMB

For the 1.0 km course –	total climb per loop:	15-35m
For the 1.2 km course –	total climb per loop:	20-40m
For the 1.3 km course –	total climb per loop:	25-40m
For the 1.4 km course –	total climb per loop:	30-50m
Maximum height difference –	30m	
Maximum climb –	25m	

- 2.2.3** The pursuit start can be performed with a fixed start interval of 10 seconds.

2.3 COMPETITION VENUES

In general, competition venues for cross biathlon will be set up based on the rules applicable to winter biathlon events, however giving appropriate consideration to the differences present in competitions held in the summer. The venues may be modified with the approval of the RD/TD.

2.3.1 Course

Courses must be of a minimum width of 3 m. The course must be surfaced with grass, sawdust, asphalt or cinder and must be free of any obstacles or bumps. All parts of the course must be safe for the competitors to run along at full speed.

2.3.2 Course Marking

The course must be clearly marked and fenced off along its entire length.

2.3.3 Start and Finish Zones

The start and finish zones must be flat and at least 5 m wide. The course after the start and the course before the finish must be straight for at least 50 m. Lanes for the relay and mass start starting area must be at least 1 m wide and 30 m long.

2.3.4 Shooting Range

The shooting range will be constructed in accordance with the IBU Event and Competition Rules. Competitors may stand on the mats or on the bare ground in the standing shooting position. Lifting the mats is not permitted.

2.3.4.1 Rifle Racks

An adequate number of rifle racks, as stipulated by the RD/ TD, must be

marked with the start numbers and located on the shooting range or close to it to give all competitors a place for their rifle while they are running. All racks must be located in the same distance from the shooting range. The racks must be wooden; the distance between the notches for holding the rifles must be at least 35 cm. The racks must be designed in such a way as to allow the competitors to deposit and remove their rifles easily, yet must prevent the rifles falling out accidentally. The numbers must be a minimum of 10 cm in height and have a font line width of 1 cm.

2.3 PENALTY LOOP

The penalty loop must be 70 m (+ or - 5 m) in length.

3. ROLLER BIATHLON

3.1 DEFINITION

Roller skiing with small-bore shooting (roller biathlon) is a form of summer biathlon which is conducted in a similar fashion to winter biathlon.

3.2 ROLLER BIATHLON: SPECIFIC COMPETITION RULES

3.2.1 Rule Specifications

The competitions may only be carried out with roller skis of the same type and model. The IBU will define the type and model of roller skis and will provide such roller skis and bindings. Rifles must be carried on the course during competition. Competitors must bring their own rifle, ski boots, ski poles and helmets. Helmets must meet one of the international safety standards (e.g. DIN EN 1078 or equivalent). Such helmets must be worn during all types of training and competition. The OC will announce this in the invitation.

3.2.2 Competition Specifications

Roller biathlon will be conducted according to Table 1 under Article 1.3.10 of the Event and Competition Rules. Any changes must be authorized by IBU.

3.2.3 Inspection of Equipment/Clothing

RD /TD and the OCs are to provide a technical inspection of all roller skis. Roller skis will be inspected after the official training, before the start and after the finish of the competitions. The inspection will check the

model, the type and the speed of the roller skis. The participants will get their roller skis with an approval marking immediately before the start.

3.3 COMPETITION VENUES

3.3.1 Start and Finish Areas

The start area for single starts must have a straight start line at right angles (90°) to the skiing direction. The start line for group or simultaneous starts must be placed so that the competitors have to ski the same distance. The 50 m before the finish line should be straight and flat, and be divided up into three lanes marked with a white-colored line. The 50 m after the finish line must be straight and flat as well.

3.3.2 Courses

The minimum width of the course will be 3.5m or more. Downhill parts and curves must be laid in such a way that the competitors are able to move on them at full speed without risk of an accident.

3.3.3 Shooting Range

Winter Biathlon regulations apply to the construction of shooting ranges.

3.3.4 Penalty Loop

A paved penalty loop of 150 m (+ or - 5 m) must be constructed according to winter biathlon rules.

3.4 SHOOTING REGULATIONS

All regulations valid for winter biathlon must be applied to roller biathlon but competitors are required to stand with both feet/roller skis on the mats.

4. MOUNTAIN BIKE BIATHLON

4.1 DEFINITION

4.1.1 Mountain Bike Biathlon

is a summer sport combining mountain biking and small bore rifle shooting.

4.2 CLASSES OF COMPETITORS

Men and Women

15 - 20 years; 21 - 30 years; 31 - 40 years; 41 + years.

4.3 COMPETITIONS

Men 9 km (3-3-3) with two shooting bouts (P, S);
Women 6 km (2-2-2) with two shooting bouts (P, S).

4.3.1 Qualification if required by large entry numbers

Men 6 km (2-2-2) with two shooting bouts (P, S);
Women 4.5 km (1.5-1.5-1.5) with two shooting bouts (P, S).

4.4 DRAW OF START NUMBERS BY CLASSES

Group draw in every class; maximum of 4 draw groups per class.

4.5 COMPETITION JURY

1 TD appointed by IBU TC;
1 IBU international referee;
2 Team Captains;

4.6 COMPETITION VENUE AND FACILITIES

4.6.1 Start/finish

- Individual start at 60 second intervals;
- Mass start.
Finish zone minimum 6 meters wide followed by a 10 x 30 meter slow-down area.

4.6.2 Course

Minimum of 2 loops consisting of varying terrain.

4.6.3 Penalty loop

A loop of mildly varying terrain, to provide a handicap of 30 seconds.

4.6.4 Shooting range

Following IBU Event and Competition rules, with the addition of bike and rifle racks.

4.7 COMPETITION EQUIPMENT AND CLOTHING

Competition equipment and clothing must be in accordance with IBU and UCI rules.

Helmets must meet one of the international safety standards (e.g. DIN EN 1078 or equivalent). Such helmets must be worn during all types of training and competition.

4.7.1 Inspection of equipment and clothing

Prior to the start and following the finish, equipment and clothing will be inspected by the IBU and UCI international referees.

4.8 TRAINING AND ZEROING

3.8.1 The day prior to the competition, competitors will have the opportunity to train on the competition course and range.

4.8.2 Zeroing will take place beginning one hour and ending 10 minutes prior to the start.

4.9 SHOOTING REGULATIONS

After placing the bike in the rack provided, the competitor will retrieve his rifle from the rack, place the rifle on his back in the carrying position, proceed to the appropriate shooting lane (prone or standing), fire 5 rounds, replace the rifle on his back in the carrying position, return the rifle to the rack and resume the race on his mountain bike.

For each target missed the athlete must complete one penalty loop.

4.10 PENALTIES

4.10.1 IBU and UCI rules will be applied where appropriate.

4.10.2 Disqualification

Competitors will be disqualified:

- For not carrying their rifle on their back in the carrying position;
- For violating safety regulations.

4.11 RANKING

Competitors will be ranked according to their time taken (to 1/10 second) to complete the course.