Red Kite Field Archers

Risk Assessment for Archery

1. Introduction

This risk assessment identifies the risks associated with the use of Red Kite Field Archers (RKFA) Club equipment and the archery ranges used by RKFA. The assessment is based on the "BS 8800 Management of Health and Safety" matrix, which is described below and the Archery GB Archery Range Health & Safety Guidelines.

Note: This document supersedes all previous RKFA Risk assessments.

The matrix uses three **levels of harm** and three levels of **likelihood of harm** occurring. A combination of these giving the **level of risk** from a particular hazard and thus the type of **action (control measure)** necessary to reduce the risk to an acceptable level. The tables below describe the levels of harm and likelihood of harm criteria used in the matrix.

Level of Harm	Description
Slightly Harmful	The injured party requires First Aid treatment, e.g. superficial injuries, minor cuts and bruises, ill health leading to temporary discomfort. Such injuries are unlikely to result in absence from work and could occur for example if an archer walks into an arrow protruding from the grass.
Harmful	The injured party requires more than First Aid treatment e.g. a visit to a Hospital Accident and Emergency Department or General Practitioner. Injuries might include lacerations, burns, concussion, serious sprains, minor fractures. Such injuries are likely to result in absence from work and for example, could occur if a target blew over whilst scoring was under way.
Extremely Harmful	Injuries include amputations, major fractures, poisoning, multiple and fatal injuries. Such injuries are likely to result in absence from work for extended periods. An arrow strike would almost certainly be in this category

Likelihood of harm	Description
Likely	Only one event i.e. one thing going wrong will result in harm or the potential for harm occurring. For example; Shooting whilst persons are at the target scoring. Harm under these conditions is "Likely".
Unlikely	More than one event must occur at the same time to cause harm or the potential for harm arising. For example; (1) a trespasser runs in front of the targets, (2) the archers do not see him and continue shooting. Under normal circumstances the archers would be aware of his presence and would stop shooting in time to avoid hitting the trespasser. So whilst harm is still possible it is "Unlikely" to occur unless both conditions (1) and (2) apply.
Highly Unlikely	More than two events must occur at the same time to cause harm or the potential for harm arising. For example; (1) a spectator walks along the end boundary of the over shoot area, (2) the overshoot is 15 yards shorter than it should be, (3) an archer shoots, misses and the arrow goes over the target and the boundary rope just as the spectator passes behind the target. **Note**. "Highly unlikely" events can and do occur. Just because it is assessed as "Highly Unlikely" does not mean it cannot or will not happen, it is merely a measure of likelihood.

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Risk Assessment Matrix

Likelihood of Harm	Level of Harm		
	Slightly Harmful 1	Harmful 2	Extremely Harmful 3
Highly Unlikely 1	**Trivial Risk 1**	**Tolerable Risk 2**	**Moderate Risk 3**
Unlikely 2	**Tolerable Risk 2**	**Moderate Risk 4**	**Substantial Risk 6**
Likely 3	**Moderate Risk 3**	**Substantial Risk 6**	**Intolerable Risk 9**

Risk Level – Required Actions

The following table describes the action that should be taken for the associated **risk level**

Risk Level	Action Required
Trivial Risk	No action required
Tolerable Risk	No action required but monitor and review
Moderate Risk	Efforts should be made to reduce the risk. When moderate risk is associated with “Extremely harmful” consequences, extra control measures must be put in place to reduce the risk
Substantial Risk	**Shooting must NOT commence until the risk has been reduced considerably**
Intolerable Risk	**Shooting must NOT commence until the risk has been reduced considerably. If it is not possible to reduce the risk shooting may have to remain prohibited.**

2. Potential Hazards

Potential hazards identified by this document are divided into two sections, the first hazards relating to equipment and the second hazards relating to the ranges.

Equipment Hazards	Range Hazards
a) Equipment failure (club bows) b) Equipment failure (club arrows) c) Bowstring d) Bow Assembly e) Target Boss / Stands handling f) Target Boss / Stands g) Arrows h) Bow i) Arrow retrieval	a) Range Layout b) Control of Shooting c) Arrows landing outside safety zones d) People straying onto range during shooting e) Weather f) Trip Hazard

Each of the Hazards identified above are described in more detail and assessed in chapters 3 and 4 below.

3. Equipment Hazard Assessments

The following hazards are associated with the use of RKFA Club equipment. Individual archers are responsible for maintenance of their personal equipment.

a) Equipment Failure (club bows)	
Potential Hazard:	Bow Riser, or Limbs may fail, string may snap
Person(s) at Risk:	Archer and those in immediate vicinity
Control Measures:	Inspect bow risers, limbs and strings before each use. Repair unsafe equipment or put beyond use if not repairable. Check for: cracks / splits in risers / limbs loose / worn arrow rests worn / incorrectly fitting limb bolts worn bowstring / bowstring correct length for bow
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

b) Equipment Failure (club arrows)	
Potential Hazard:	Arrows fail to shoot straight or break on release
Person(s) at Risk:	Archer and those in immediate vicinity
Control Measures:	Inspect arrows before each use. Repair unsafe equipment or put beyond use if not repairable. Check for: broken nocks loose / damaged / missing vanes bent arrow shafts loose piles / points
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

c) Bowstring	
Potential Hazard:	Bowstring may catch on loose hair, beards, clothing, jewellery or hit arm on release
Person(s) at Risk:	Archer
Control Measures:	Ensure archers tie back hair, remove jewellery or secure loose clothing. Warn all archers of possibility of “string slap”. Ensure all archers are provided with an arm-guard and instruction on how to fit correctly. Demonstrate correct bow arm elbow position.
Assessment of risk:	Trivial Risk

d) Bow Assembly	
Potential Hazard:	Bow incorrectly assembled, may come apart in use
Person(s) at Risk:	Archer and those in immediate vicinity
Control Measures:	Instruct archers in correct procedure for assembly of bow Check novice archers bow setup before allowing them to shoot
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

e) Target Boss / Stands Handling	
Potential Hazard:	Target Bosses are heavy risk of muscular injury. Mishandling may result in boss falling on somebody Boss framework and stands may become splintered
Person(s) at Risk:	Archer and those in immediate vicinity
Control Measures:	Bosses must only be moved by two people, using the trolleys, check that area is clear before moving. Care when handling frames / wood work, wear protective gloves (available in club container)
Assessment of risk:	Moderate Risk – Trivial Risk providing control measures are followed

f) Target Boss / Stands	
Potential Hazard:	Target boss not secured, possible risk of boss falling on archers causing injury.
Person(s) at Risk:	Anyone in immediate vicinity of target boss / stand.
Control Measures:	Ensure all target bosses / stands are secured prior to shooting Instruct novice archers in how to secure targets / bosses and the correct method for withdrawing arrows from target.
Assessment of risk:	Moderate Risk – Trivial Risk providing control measures are followed

g) Arrows	
Potential Hazard:	Arrows to short for the archer, resulting in arrow being drawn off the rest
Person(s) at Risk:	Archer
Control Measures:	Check arrow length of all new archers, do not allow archers to shoot if arrows of correct length are unavailable
Assessment of risk:	Substantial Risk – Trivial Risk providing control measures are followed

h) Bow	
Potential Hazard:	Bow to heavy (draw weight), may result in muscular or soft tissue injury
Person(s) at Risk:	Archer
Control Measures:	Provide novice archers with light weight bows, and provide instruction on correct draw technique. Observe and check that novice archers are not over bowed, provide lighter bow if needed. Warm up exercises before shooting and Cool down after shooting. Ensure archers receive appropriate advice before purchasing equipment
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

i) Arrow Retrieval	
Potential Hazard:	Arrows which missed the target may cause injury if walked into Arrows protruding from the target represent a risk of injury if walked into
Person(s) at Risk:	Everyone in immediate vicinity
Control Measures:	Instruct archers of these hazards and of the importance of approaching the target with caution. Instruct new archers in correct technique for drawing arrows from boss, including importance of standing away from boss when others are pulling arrows and how to carry arrows if not using a quiver. Do not allow anyone to wear open-toed shoes / sandals. No running on the range. Ensure all lost arrows are reported and that every effort has been made to locate them.
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

3. Range Hazard Assessments

a) Range Layout	
Potential Hazard:	Incorrect range layout may result in personal injury to an archer and/or passer-by
Person(s) at Risk:	Everyone in vicinity
Control Measures:	The range must be secure and laid out in accordance with the range specific safety requirements as detailed in the document ***Red Kite Field Archers – Range Layout and Safety Precautions***. Shooting must **NOT** begin until the range is secure.
Assessment of risk:	Substantial Risk – Tolerable Risk providing control measures are followed

b) Control of Shooting	
Potential Hazard:	Inadequate control of shooting may result in personal injury to an archer and/or passer-by
Person(s) at Risk:	Everyone in vicinity
Control Measures:	Shooting must always be under the control of the field captain, who should be an experienced archer, or qualified judge. New archers must be instructed on the role of field captain and the signals used to control shooting
Assessment of risk:	Substantial Risk – Trivial Risk providing control measures are followed

c) Arrows landing outside safety zones	
Potential Hazard:	Arrows shot outside the safety zones may result in personal injury to spectators or archers.
Person(s) at Risk:	Everyone in vicinity
Control Measures:	Archers must adhere to the Archery GB Rules of Shooting. Any archer deemed by the Field Captain or Judge not to be doing so should be cautioned and/or asked to stop shooting and leave the field. Range laid out correctly – as per the document ***Red Kite Field Archers – Range Layout and Safety Precautions***.
Assessment of risk:	Substantial Risk – Trivial Risk providing control measures are followed

d) People straying onto range during shooting	
Potential Hazard:	A person straying on to the range may be injured by arrows.
Person(s) at Risk:	Person straying on to the range
Control Measures:	Ensure that the range is laid out in accordance with the range specific safety requirements as detailed in the document ***Red Kite Field Archers – Range Layout and Safety Precautions*** A suitable barrier with warning signs must exist beyond the edge of the safety zones. The Field Captain and all archers must remain vigilant and suspend shooting (call FAST) immediately if the safety zones are violated, including anyone stepping across the shooting line without being given the signal to do so by the Field Captain. Ensure all participants are familiar with the commands use to control shooting. All spectators and those waiting to shoot must remain behind the waiting line.
Assessment of risk:	Moderate Risk – Tolerable Risk providing control measures are followed

e) Weather	
Potential Hazard:	Competitors / officials / spectators at risk from elements when shooting outdoors; fog may reduce visibility of safety zones, or an archer may be struck by lightning.
Person(s) at Risk:	All in vicinity
Control Measures:	Shooting must be suspended if the safety zones are not visible. Shooting must be suspended at the first sign of thunderstorm in the immediate vicinity and not be resumed until the danger is past.
Assessment of risk:	Tolerable Risk – Trivial Risk providing control measures are followed

f) Trip Hazard	
Potential Hazard:	Competitors / officials / spectators at risk from tripping over on uneven areas of ground (outdoor ranges), may result in muscular or soft tissue injury or broken bones.
Person(s) at Risk:	All in vicinity
Control Measures:	Remind all archers that running on the ranges is prohibited, and warn of the dangers of potential uneven and / or slippery ground.
Assessment of risk:	Tolerable Risk