

National Rifle Association of Australia



# RANGE OFFICERS HANDBOOK

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# PRELIMINARIES

This publication has been developed to improve the training of NRAA Range Officers.

This publication will be a live document and is intended to be used as an electronic publication; that is, it will be updated regularly to reflect changes in safety, range design or the Standard Shooting Rules. It is therefore recommended that Range Officers remain conversant with this publication.

The NRAA would like to express its gratitude to the following organisations and people to whom their material or work has contributed to this publication:

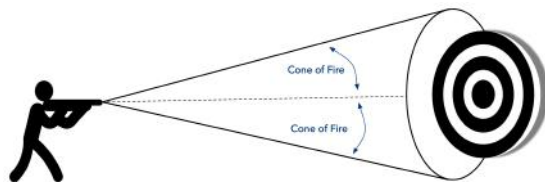
- The NRA of Great Britain
- Ms Tricia Van Nus
- Mr Peter Hulett (NRAA Chief Range Officer)
- Mr Bruce Scott (NRAA President)
- Mr Piers Cambridge (NRAA Chairman)

Ultimately our success and longevity as a Sport will be dependant on our ongoing strong safety record. Please act and shoot in a safe manner.

# ABBREVIATIONS

- BO - Butts Officer
- CoF - Cone of Fire
- CRO - Chief Range Officer
- ECI - Empty Chamber Indicator
- FDA - Full Danger Area Range
- FP - Firing Point
- LDA - Limited Danger Area Range
- LoF - Line of Fire
- LoS - Line of Sight
- NDA - No Danger Area Range
- NRAA - National Rifle Association of Australia
- RDA - Range Danger Area
- RO - Range Officer
- SSR - Standard Shooting Rules

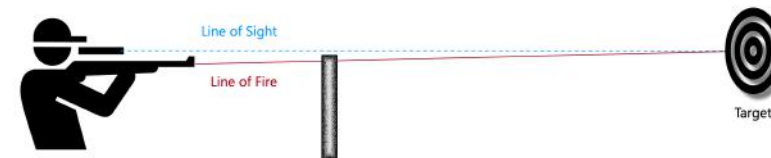
- Cone of Fire. The Cone of Fire (CoF) is the distribution of fired projectiles within a margin of error in the vertical and horizontal planes. The CoF accounts for acceptable deviation caused by errors associated with the firer and machining or manufacturing tolerances and allows an additional margin



for unacceptable firer error. Cone of Fire for supported shooting is 5mils, for

unsupported shooting it is 40mils. Cone of fire is also called 'Dispersion Cone/Angle'.

- Danger Area / Zone. The Danger Area / Zone (DA / Z) is the space in which there may be a hazard which could result in harm to personnel, equipment or property.
- Danger Area Template. A Danger Area Template is a technical drawing worked to a given scale and produced on appropriate material for conventional application.
- Line of Fire. The Line of Fire (LoF) is an imaginary straight line from the barrel of the firearm to the target. The LoF is used by range designers to ensure safety from all firing positions. The distinction between Line of Sight (LoS)



and LoF is critical when shooting from the prone position as although the sight to target is clear, the Line of Fire may not be. For example, the Rifle optical sight is 90mm above the centre line of the barrel.

- Line of Sight. The Line of Sight (LoS) is a straight line passing through the sight of the firearm to the point of aim on the target so that the firer can see the target he is shooting at.
- Muzzle Energy. The Muzzle Energy (ME) is the kinetic energy of a projectile at the muzzle of the weapon system. The ME (joules) =  $\frac{1}{2}mV^2$  (m = projectile mass in kg, V = MV in m/s).
- Muzzle Velocity. The Muzzle Velocity (MV) is the speed of a projectile as it leaves the barrel.

# CHAPTER 1

## Introduction

- Aim of the Range Officers Course
- NRAA Officiating Program Structure
- Shooting Australia Range Officials Accreditation Structure

### Introduction

All shooting by members of civilian clubs on NRAA ranges must be controlled by a Range Officer (RO) who has been qualified by the NRAA. This is particularly important as it will ensure that range operators:

- Protect our sport by maintaining our strong safety record.
- Comply with appropriate State and Territory Legislation (Firearms Acts).
- Ensure that both RO and shooters are covered by the NRAA insurance policy should an accident or incident occur.

RO are selected and endorsed by Club Committees, they therefore act on behalf of the Club Committee.

**Aim of this Course.** The aim of the NRAA RO Course is to qualify suitable persons as (NRAA) Range Officers with particular attention to:

- Ensuring full compliance with, and the implementation of, proper safety procedures at all times.
- Maintaining control of and taking responsibility for shooting practices.
- Ensuring compliance with standards for range conduct and discipline.

The minimum standards for those attending the course are:

- Applicants must be current financial members of the NRAA.
- Applicants should have at least two years adult experience in the applicable shooting discipline(s).
- Applicants should be nominated as 'Proper Persons' by their Club Committee/Captain.
- Applicants should have a grounded capability to read, comprehend and make decisions. Fundamentally, being a RO requires people to be well aware of the rules (including range standing orders), abide by those rules and be capable of making sound and timely decisions.

**Course Design.** An RO, on behalf of the Club Committee, has complete authority and responsibility for everything that happens on the range while they are in charge. They must therefore be well informed and competent. This course is designed to provide essential information, test the knowledge and assess the range skills of applicants. Extensive study of this manual before attending a NRAA RO Course is required.

**Competency Period.** Once an individual has been assessed as being competent, they will be granted an accreditation to be a RO for a period of five (5) years. To remain accredited as a NRAA RO, the individual will need to take a refresher course every five years. This will ensure the RO is up to date with current legislation and safety rules.

**Safety Information.** When deemed as competent as an RO by passing this course, the NRAA will add you to a list of NRAA accredited RO. This will allow the NRAA to advise you via email of safety notices and changes to the SSR.

## **NRAA Range Officer Program Structure**

Shooting Australia's Officiating Scheme (Range Officer and Match Official) encourages member disciplines to develop levels of accreditation for their sport's officials. NRAA is working toward two such courses – NRAA Range Officer which is accredited through NRAA – and NRAA Match Official which is also accredited with Shooting Australia.

These courses aim to give RO/Match Officials knowledge, experience and methods to improve officiating skills. The NRAA RO course is designed to equip beginner Officials with appropriate methods and confidence to officiate and be an RO at the introductory level of sport – clubs. At this level volunteers can learn new skills to become competent and make a valuable contribution to our sport.

This course takes the volunteer further along the officiating pathway and leads to the Shooting Australia Technical Official's ASC accreditation.

The desired outcome is for all qualified Officials to maintain core competencies that allow them to:

- Apply accurate and consistent decision making,
- Apply more effectively their technical knowledge of sport,
- Plan and organise their own performance more effectively,
- Plan and implement basic officiating administrative procedures, and
- Ensure that shooting is conducted in a safe manner.

Each Course has three principle components:

- Core Officiating Principles – fundamentals of officiating
- Sport Specific – knowing rules and requirements of officials, and
- Officiating Practice – being an active official.

The main reasons we need to accredit Officials, specifically RO is to:

- Keep our ranges operating safely by having competent RO that have a sound level of knowledge and skill.
- Improve the application of safety rules, processes and procedures by everyone who use firearms on our ranges.
- Use consistent, clearly understood instructions and procedures to participants, visitors and spectators.
- Improve the credibility of RO when dealing with administrators on matters of safety on ranges.

- Ensure volunteer RO understand their legal and moral obligations when performing their range duties.
- Raise the general level of respect for all sport officials

## **Shooting Australia's (SA) Technical Officials Accreditation Structure**

In 2016, Shooting Australia developed an accredited Officiating Course available to all its Members that links the Affiliate courses to the requirements of the ISSF courses/s.

This Manual/Workbook starts the Volunteer's journey and is to be used in all courses conducted by the NRAA. Assessment tasks are included in the module material.

The aims and objectives of the NRAA Range Officer's Course are to:

- Provide the skills necessary for RO to be capable of conducting shooting sessions at club level.
- Provide encouragement and make it easier for club members to become accredited officials.
- Promote firearms safety.
- Provide a clear development path for RO who aspire to the highest level of accreditation and service as an Official, both national and international.

The expected outcomes of having RO are to:

- Have a pool of competent RO to safely operate shooting sessions at least at club level and ultimately for State and National competitions.
- Maintain ranges in a safe operating status at all times.
- Ensure new and prospective members are properly trained in safe handling of firearms and safe range practices and procedures.

This Publication uses the term Range Official, Range Officer (RO) and Match Official interchangeably. Where these terms are used, the reader should understand that in the context of this course the term is meant to refer to Range Officer (RO).

Readers should understand that Range Officials comprise of being a Match Official and/or a Range Officer.





### Learning Outcomes:

- NRAA and Shooting Australia are committed to training Range Officials, especially Range Officers.
- NRAA Accredited Officials (Range Officers) help to maintain safe operations of clubs.
- Ensuring the safety of all – participants, visitors, organisers, other officials is the primary outcome of this course.
- The OFFICIAL'S PATHWAY is:
  - ✓ NRAA Range Officer for Club Level Shooting.
  - ✓ NRAA Match Competition Level Range Officer for Prize Meeting/State Level.
  - ✓ Shooting Australia Technical Official (for those working at National and SA Events).
- Range Officers must be competent to conduct matches/practices outlined in the SSRs.

# CHAPTER 2

## Legal Responsibilities & Risk Management

- Make informed decisions on legal responsibilities & related safety issues
- A systems approach to safety
- Law of Torts
- Application of risk management policy
- Relevant Legislation

### Make Informed Decisions on Legal Responsibilities and Related Safety Issues

Many Match Officials and RO have made decisions and taken actions with their best intentions but may have done so without too much thought as to the possible consequences of those decisions - or more specifically may not have had the necessary training that allows them to make an informed decision. Furthermore, they may have not given an instruction or taken action believing it to be beyond their scope of responsibility and more of the role of an organiser or administrator.

Match Officials and RO have a responsibility to ensure the safety of participants, organisers and the public for activities under their control.

### Law of Torts

The Law of Torts explains the relationship between sport and the law which deals with people's wrongful acts which cause injury or damage to other people or their property and how the court determines an award as compensation. The liability of such a claim on any sporting activity should ensure it is done as safely as any reasonable person can make it.

This applies equally between administrators, organisers and Match Officials and RO.

There are three broad classifications of acts which cause sporting injuries or damage - assault, negligence or accidents. Battery or trespass (assault) and negligence are the two principle types of tort.

**Assault** - is a deliberate act causing injury to a person and does not matter that the defendant did not contemplate the precise extent of the injury caused by their actions.

The tort of assault requires the following three elements to be present:

- The direct application of forceful contact by one person on another person,
- The absence of consent by the person who was forcefully contacted, and
- An injury as a result of the offensive contact.

**Negligence** - is the most common claim that a sports official is likely to face and it may extend to the responsible organiser/administrator.

*The basic principles used to govern negligence are the simple principles of common sense, reason and foresight.*



In determining whether a RO has been negligent, the law will apply a four-tiered test to the individual situation. An affirmative answer to each of these questions is required for an action in negligence to be successful.

1. Did the RO owe a duty of care to the participant (duty of care)?
2. Did the RO breach or fail to discharge that duty of care (standard of care)?
3. Did the participant suffer damage as a result of the RO's breach of failure (causation)?
4. Was the participant's injury reasonably foreseeable - ie could the RO logically deduce an injury could occur (remoteness of damage)?

**Duty of Care** - At law every person 'must take reasonable care to avoid acts and omissions which (he or she) can reasonably foresee would injure (his or her) neighbour' (judgement of Lord Atkin in *Donoghue v Stevenson* (1932) AC 562).

In the RO context, given the relationship between a RO and a participant and the proximity between the parties, a duty of care is likely to exist to ensure that the participant is not injured.

**Reasonable Person Test** - The law will look at what a 'reasonable RO would have done in the circumstances to determine whether there has been a breach of the duty of care owed by a RO to the participant.

In determining the standard of care expected of a RO, the following factors may be taken into account.

1. The more hazardous the activity, the greater the standard of care expected of the RO in relationship to the participants.
2. The age and ability of the participant. A higher standard is expected for younger or disabled participants or where it could be reasonably viewed that adults were placed in a situation with which they could not cope.
3. Generally the more trained and experienced a RO is, the higher the standard of care imposed.

*The reasonable person test establishes that the mere fact that there was something more that could have been done to avoid the injury occurring does not necessarily establish that there had been a failure to meet the reasonable standard of care*

If the RO acts reasonably in the circumstances, complies with the law and adopts risk management strategies to minimise the risks arising in the first place, the chances of being held legally liable is greatly diminished. As with

any area which involves risk, sports officiating is one where risks can be substantially reduced by good housekeeping, preparation and ensuring a safe sporting environment.

## Develop A Risk Management Culture

**Application of Risk Management policy.** The goal of any Risk Management strategy should be to ensure that everyone who visits a rifle range to participate, be it an Official or RO or just as a spectator should go home as healthy as they arrived.

To do this requires at least administrators and Officials and RO to apply a simple three step strategy before they are involved with any activity:

1. **Take Time to Identify Hazards.** All activities involve an element of risk. Take time to briefly describe what activity/s will be involved by whom and when and what would be the result if something did (or did not) happen.
2. **Access all the Identified Risks.** Risks can be classified by two principle measures:
  - The range of severity (impact) of the outcome.
  - The likelihood (frequency) of the event/outcome happening.

By using a Risk Indicator Matrix using both these measures as axis in a table it is very easy to qualitatively assess the risk and use this indicator as a tool in decision making.

3. **Make Changes to Eliminate or Reduce the Risk.** The goal of hazard identification and management is by using risk treatment strategies and controls to get all activities into one of the Low areas in the Risk Indicator Matrix. Five principle strategies for making changes use a hierarchy of controls to move activities to Low from the High and Medium areas.

- Elimination
- Substitution
- Engineering Controls
- Administrative Controls
- Personal Protective Equipment

**Most Effective**



**Least Effective**

## Hazard Identification Checklist

Hazard Type	Possible Hazard - Question to Ask
<b>Human Movement</b>	Is manual handling (lifting, pushing and pulling) causing any problems? Are items being lifted easy to grasp, have no sharp edges, are not hot, cold, slippery or bulky?
<b>Human Position</b>	Do the work areas match the physical needs of the people performing the task? Do tasks require awkward postures or repetitive movement?
<b>Gravitational (People)</b>	Is there a risk of people slipping, twisting, tripping or falling? Is there a risk of people falling from height?
<b>Gravitational (Objects)</b>	Can objects, such as chairs and ladders topple or fall? What can fall from above and are people protected from it (barriers, nets)?
<b>Machine (Fixed)</b>	Do people interact with fixed machinery? (e.g. TCMs) Are physical guards / protection from moving parts in place?
<b>Machine (Mobile)</b>	What vehicles or mobile machinery movements pose a hazard?
<b>Equipment (Portable)</b>	What items of equipment are required? Are all items of equipment in good working order?
<b>Stored (Pressure)</b>	Are cylinders and pressure vessels in good working condition? Are cylinders and pressure vessels stored correctly in safe storage area?
<b>Chemical</b>	What tasks involve hazards chemicals? Are hazard chemicals stored safely? (flameproof cabinets)
<b>Electrical</b>	What activities have the potential for exposure to live electrical wires/ circuits? What tools or equipment have potential to cause electrical shock?
<b>Thermal</b>	Where are the areas of extreme heat or cold?
<b>Radiation</b>	Are there sources of ionising and non-ionising radiation?
<b>Object (Kinetic)</b>	Are there any flying objects? (e.g. ricochet or splashback) What is done to contain free moving objects?
<b>Vibration</b>	Is there machinery that produces excessive noise?
<b>Noise</b>	Are there tasks that must be done in areas of excessive noise?
<b>Biological</b>	Are there tasks that pose a risk of infection from exposure to bacteria, fungi, animals etc?

## Options to Reduce or Eliminate Risk - So far as Responsibly Practicable

RO have an obligation to reduce risk to all people. Options that are available to RO to eliminate risk include:

- Elimination - discontinue the activity altogether - don't do it!
- Substitution - find another safer way of doing this activity.
- Engineering Controls - install barriers, guards and safety mechanisms.
- Administrative Controls - transfer the risk by erecting warning signs, ensure adequate training is provided, insurance.
- Personal Protective Equipment - to be used (i.e. ear plugs).

Once a strategy or combination of strategies have been decided to put adequate controls in place then the next task is to decide the who, when, where and how the control will be implemented and maintained whenever the activity will occur. Then continue to review the impact of the controls to move and sustain the level of risk into Low risk areas on the Risk Indicator Matrix table.

## Relevant Legislation

For Club Committees, officials and RO, undertaking any risk management process is an extremely positive strategy to demonstrate a commitment to continuous improvement of safety within the scope of their control and influence.

Most State Governments have recently enacted legislation (in WA there are at least six) to further compliment existing legislation in an effort to address the public liability crisis. Some of it also defines limits to claims against volunteers. For all this legislation to be effective to mitigate any liability it is important to know and understand the scope of each piece of legislation and its application to volunteer officials.

For Club Committees, officials and RO the intent of most of this legislation is to reduce the risk of being sued for something they did or failed to do, if they are acting within the scope of the work and directions given to them by the organisation.

Risk Indicator Matrix

Severity Likelihood	Minor (A)	Moderate (B)	Major (C)	Critical (D)	Catastrophic (E)
<b>Almost Certain (5)</b>	Low (A5)	Medium (B5)	High (C5)	Very High (D5)	Very High (E5)
<b>Probable (4)</b>	Low (A4)	Medium (B4)	High (C4)	High (D4)	Very High (E4)
<b>Occasional (3)</b>	Very-Low (A3)	Low (B3)	Medium (C3)	High (D3)	High (E3)
<b>Improbable (2)</b>	Very-Low (A2)	Very Low (B2)	Low (C2)	Medium (D2)	High (E2)
<b>Rare (1)</b>	Very Low (A1)	Very Low (B1)	Very Low (C1)	Low (D1)	Low (E1)

Severity Categories Matrix

Severity	Category	Description
Catastrophic	E	Multiple deaths, huge venue or financial loss or high public image impact
Critical	D	Death, severe injury, disability, illness, or major venue or environmental damage
Major	C	Serious injury or illness, damage to equipment, repetitional impacts
Moderate	B	Minimal injury, illness, low financial loss or quick environmental clean-up
Minor	A	Minimal injury, illness, no financial loss, no impact to environment

Likelihood Levels Matrix

Probability	Level	Single Event
Almost Certain	5	Expected to Occur during the activity, known to have occurred in similar activities.
Probable	4	Expected to occur in most circumstances, but is not certain. Is known to have occurred previously in similar activities.
Occasional	3	Not expected to occur during the planned activity. Sporadic but not uncommon.
Improbable	2	Not expected to occur during the activity. Occurrence conceivable but considered uncommon.
Rare	1	Not expected to occur during the planned activity. Occurrence conceivable but not expected to occur.

## Risk Acceptance

NRAA members should only be conducting shooting practices that fall within the Risk Levels of Low or Very Low.

Acceptance of Risk - ultimately the Club Committee or Organising body conducting an event is responsible for the acceptance of risk and is liable for events that result in the serious injury or death of an individual.

Adherence to Range Approvals, RSO and SSR ensures that practices remain with an acceptable Risk Level.

## Insurance Coverage

The NRAA provides insurance for members of the NRAA on NRAA approved ranges. As a RO you will be covered by the NRAA insurance policy provided that you ensure that:

- You are a current member of the NRAA.
- Your shooters are current members of the NRAA (visitors are covered up to 3 shoots provided that they are under instruction).
- You are on a range approved for NRAA matches (as per SSR).
- You are conducting the matches on the range in accordance with the relevant range approval as issued by the State or Territory Police, the Range Standing Orders (RSO) and Standard Shooting Rules (SSR).

## Learning Outcomes:

- Being in charge of a range and the activities which occur on a range means you have a legal responsibility or 'duty of care' to protect people.
- Regular assessments of ranges (physical) and the application of behaviour needs regular assessment to ensure shooting is a safe activity - as far as reasonably practicable.
- Unsafe acts need to be stopped. High risk areas need to be addressed.
- NRAA position on shooting requires that you be a NRAA member, the shooters are NRAA members (unless approved visitors) and the range is being conducted in accordance with Police approvals, RSO and SSR.
- If you see an unsafe practice or person - you have a legal and moral obligation to stop and address the issue.



# CHAPTER 3

## Range Officiating

- **Obligations of Range Officials**
- **Role of Range Officers**
- **Range Standing Orders**
- **Range Officer Duties and Responsibilities**
- **Hierarchy of Law**

### **Obligations of Range Officials**

The principle obligations of any Official and RO are to ensure discipline of all shooting activities on a range and take precautions to prevent accidents, either to those using the range or to the public. There are two broad classifications of rules used by Officials to fulfil this role.

**Competition Rules** such as those in the NRAA SSR, ensure everyone can participate fairly in a sporting competition. They specify:

- Types and specifications of permitted firearms.
- Types and dimensions of targets.
- Types and calibre of permitted ammunition.
- Method and processes for scoring.
- Allocation of firing points to competitors.
- Competition time limits with start and stop commands.
- Legal physical positions and attributes for each competition.
- Types and size of permitted clothing and footwear.
- Types and dimensions of permitted accessories.

**Range Rules** such as those defined in Range Standing Orders (RSO) and approved by the Club Committee responsible for the range, contain:

- The types and calibre of firearms permitted to be used.
- The type and calibre of ammunition that can be fired on a range.
- Position and specification of warning signs, flags, sentries etc. before the range is operational.
- Specifications for position and condition of targets and bullet catchers.
- Location and physical positions for firing points on the range.
- Range clearance procedures before and after firing.
- Special considerations for night firing.
- Limitations on forward movements when adjacent ranges exist and are in use.

## Role of Range Officers

It has already been established that there is a clearly defined legal Duty of Care relationship between Range Officers and users. This relationship means there is an obligation to ALWAYS apply all range safety rules. They will take precedence over competition rules.

The Duty of Care responsibility requires every Range Officer to:

- Understand the legal obligations of their actions.
- Ensure that safe activities are their primary role.
- Know how to perform correct on-range management control.
- Be suitably positioned to observe and supervise the range.

In the unfortunate event of a wounding or even worse a death resulting from shooting, the RO will almost certainly be involved in an investigation. Even an obvious "accidental wounding" can be found to be a criminal act in some States. For a death, presentation of evidence of actions to a Coroner's Inquest is the most likely outcome.

For RO, the outcomes of any investigation will certainly be influenced by the results of the "4 tier test for negligence" taking into account the factors of the reasonable person test. By RO following some simple Risk Management strategies and application of the NRAA safe shooting system to manage their actions it improves the likely outcomes of any investigations.

## NRAA Safe Shooting System

Clubs and Members of the NRAA, should know that in order to shoot on ranges approved for NRAA matches that they need to possess a valid Firearms Licence (issued in Australia) or as a visitor (licensed or un-licensed) be closely supervised by a nominated coach/instructor.

The NRAA has introduced a Safe Shooting System framework for ensuring the conduct of safe shooting on approved ranges. The Safe Shooting System has four elements.

Rather than referring to a safe shooter we tend to refer to safe people. A range is only as safe as the least safe person associated with its use including (for example), those who are responsible for maintaining the range. It's not just the shooters who have to be safe; it's everybody! The four elements are in the following paragraphs.

**Safe People.** The safe people have the capability to use firearms and ammunition safely, and demonstrates that capability at all times on the range. NRAA clubs are responsible to provide training that imparts the knowledge

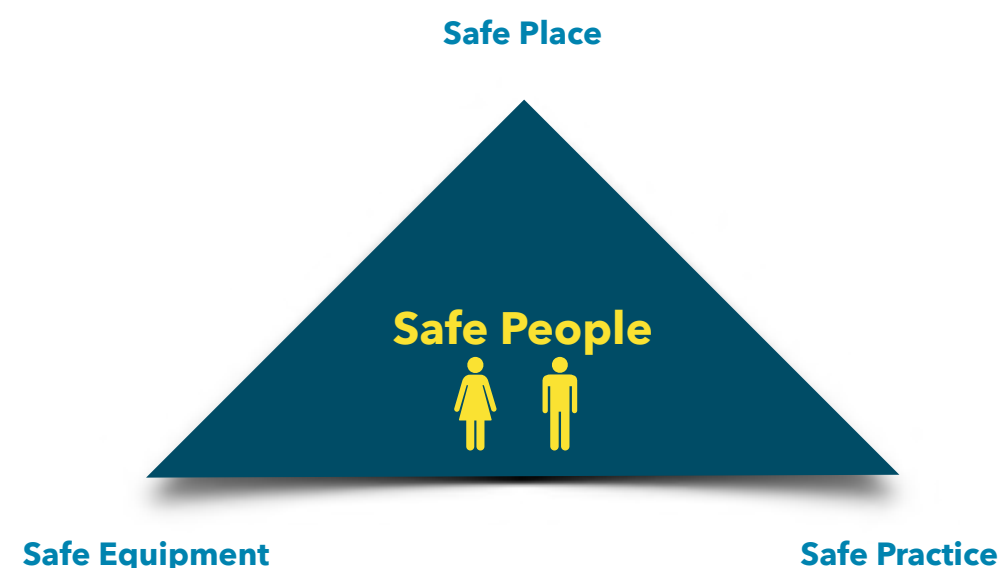
and skills on which such capability is based. Ultimately the issuing of a firearms licence proves that the individual is safe with a basic level of firearms knowledge, HOWEVER, it will be necessary to develop this level of understanding and safe practice by the individual in the club.

***People under the influence of alcohol or illegal drugs are not permitted to Shoot. This should be strictly enforced by the RO.***

**Safe Equipment.** The individual shooter owes a duty of care to his club captain and fellow club members for ensuring that their firearm is serviceable and properly maintained, that the ammunition used results in performance within the range parameters (for example calibre, muzzle velocity and muzzle energy) and that the combination of firearm and ammunition is safe and suitable for the circumstances in which it is being used. The NRAA SSR identify the limiting parameters for firearms to be used in each NRAA shooting discipline.

**Safe Practice.** The NRAA SSR contain detailed regulations concerning the conduct of shooting for all its shooting disciplines. Qualified NRAA RO's are responsible for the safe conduct of ranges.

**Safe Place (Environment).** A safe place is one in which the controls which are necessary to enable shooting to be conducted safely have been identified by a site specific risk assessment and directed through the Range Standing Orders (RSO). All NRAA ranges must have site-specific RSO which must be complied with at all times. One of the responsibilities of the NRAA RO is to ensure such compliance by shooters under his or her control. The SSR also contribute to a safe place.



## Addressing the NRAA Safe Shooting System

The following sections will focus on addressing these four elements.

### Range Standing Orders - A Safe Place

The purpose of Range Standing Orders (RSO) is to promote safe range operations, and to protect the shooters and the non-shooting public alike from potentially hazardous and preventable incidents or activities. RSO are prepared with the intent of clearly describing to all range users and Range Officers the acceptable activities that will keep the range use within the scope of the Range Approval. They will also outline to all users and Range Officers the major unacceptable activities (e.g. those that may not be apparent) that are not permitted on the range.

Just as each range is unique, each set of RSO should be unique in that they capture the requirements of each range or range complex. RSO need not be complex, however, they must be detailed enough to clearly describe each range and its safe operation. RSO should be prepared for each range. Where a range complex has multiple ranges the RSO should cover each individual range in the context of a group of RSO. The benefit in doing it in this manner for range complexes is that common elements can be grouped and made applicable for each range. RSO content is flexible, but at a minimum should address the following basic points:

- Describe the location and physical details of all ranges.
- Describe the hours/days of operation.
- Describe the range register requirements.
- List acceptable Range Officer and/or user qualifications.
- Describe the signage, flags, gates to be closed to control access and safety.
- Describe acceptable firearm/calibre/bullet natures and ME/MV where specified in the range approval.
- Describe acceptable range activities (e.g. arcs of fire).
- Describe unacceptable range activities (e.g. a list of unauthorised targets).
- Describe personal safety requirements (e.g. hearing protection, eye protection, lead contamination, etc.).
- Describe the unload and unloaded firearm policy and ECI requirement.
- Provide emergency information (e.g. hospital location and phone numbers for police and the Range Operator).
- Describe actions on incident or accident.

- Promulgate the Police Range Approval and range template.
- Describe the range management arrangements and how issues can be raised.

RSO should be reviewed at least every two years. An example set of RSO is available from the NRAA website.

### Basic Safety Rules

1. Treat every firearm as if it is loaded.
2. Your firearm is your responsibility.
3. Always ensure your firing zone is clear and identify your target beyond all doubt.
4. Never point a firearm at or near another person.
5. Never load a firearm until you are ready to shoot.
6. Keep your finger off the trigger until you are ready to shoot.
7. When you have finished shooting remove the magazine (if fitted), unload and then check that the chamber is empty.
8. Make sure that all firearms are transported securely to prevent misuse or theft.
9. Never allow unauthorised access to your firearm(s) or ammunition.
10. Do not climb fences or obstacles with loaded firearms.
11. Encourage safe and responsible handling of firearms in the field, on the range, and within the community.
12. Never mix shooting with alcohol or drugs.
13. Understand the operation of your firearm, keep it in good repair, and always use the correct ammunition.
14. Never store firearms and ammunition together. Ensure they are safely locked away when not in use.
15. Be familiar with the legal requirements for safe storage, firearms ownership, possession and use in your state or territory, or in the state or territory you are visiting.
16. Dispose of unwanted firearms lawfully. Surrender them to the police or sell them to or through a licensed dealer.

From: National Firearms Safety Code



## Hierarchy of Applicable Law and Policy

The diagram below shows the construct of Federal and State laws, including relevant shooting laws so that readers understand how the applicable Laws and Policies have been used to construct the responsibilities of a Range Officer (RO) and Range Standing Orders (RSO). In some States and Territories there are differing 'rules, regulations and policies' however, they should all be considered by the RO and applied for the safe conduct of the shooting activity. Readers should be aware, that the most senior Law or Policy takes precedence.

RO should understand that RSO are a key risk mitigation strategy in that they identify individual responsibilities when using the range and collective responsibilities. Not knowing or understanding what is expected is not an excuse.

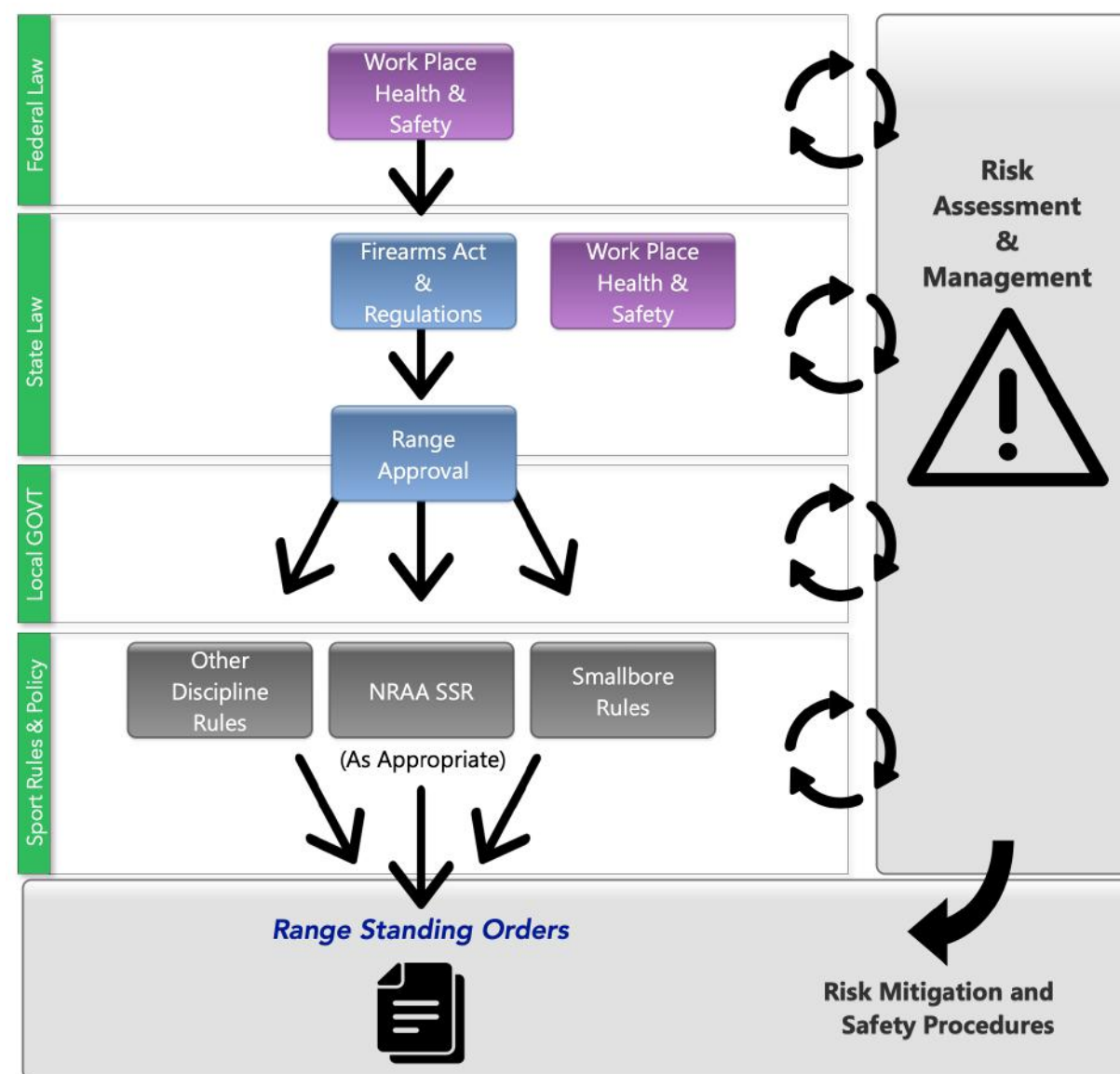
## Dealing with Minors

In the course of their Duties, RO maybe required to supervise minors, either with their parents being present or without. Consequently, it may be a requirement for RO to have a 'Blue Card' for dealing with minors. If in doubt, it is recommended that a responsible person (ie an RO) have a Blue Card to ensure that they and the Club are protected.

The Range Officer is responsible for ensuring the safety of minors whilst on the range (and associated facilities) until they are returned to the custody of their parent(s).

This provision stems from the absolute responsibility of the RO, on behalf of the Club Committee or Management Body, to ensure the safety and wellbeing for all people on the range complex.

## Hierarchy of Law and Policy Applicable to Rifle Ranges



## Duties and Responsibilities of a Range Officer

The Range Officer is responsible for:

1. Ensuring that they are clearly visible to a shooter - through the wearing of a high visibility vest/clothing.
2. Ensuring that a first-aid kit is at the firing point during all firing activities.
3. Ensuring that all shooters are familiar with and capable of operating within the provisions of the range rules.
4. Ensuring that shooters have appropriate personal protective equipment in place such as hearing protection and glasses.
5. Ensuring that the range safety rules are observed at all times.
6. Ensuring that all warning signs and flags are in place before firing commences.
7. Ensuring that all range communications are operating and that communications have been established before firing commences.
8. Constantly supervising the shooters whilst they are at the firing points.
9. Controlling or operating any barrier, warning or signalling systems at the commencement of, during and at the conclusion of shooting activities.
10. Managing and supervising ancillary staff such as target-operators, range sentries etc.
11. Deciding when shooting is to commence, be interrupted and cease.
12. Ensuring that all firearms are properly removed from the firing point before allowing anybody to proceed in front of the firing point (to change targets, for example).
13. Excluding from the shooting range persons who disrupt operations or pose a threat to safety and persons perceptibly under the influence of alcohol or drugs.
14. Ensuring that all litter is removed from the range and spent cartridge cases are collected.
15. Ensuring that all shooting activities/competitions are carried out in accordance with the appropriate Range Standing Orders and individual discipline rules for that particular range/competition.
16. Ensuring where there has been a serious accident or incident, that first-aid and medical support is arranged, that local authorities such as the Police and Work Safety have been advised and that the scene of the accident is preserved for possible subsequent investigation.
17. Ensuring shooters are financial members affiliated with the NRAA or are visitors who have been assigned a coach/instructor.

## Chief Range Officer

A Chief Range Officer (CRO) should be appointed when two or more ranges are being run concurrently. Alternatively, a CRO may be appointed during a large competition where the CRO would be responsible for managing many RO.

Where the CRO is controlling two or more ranges, the CRO is responsible for coordinating shooting activities between both ranges and has ultimate control.

Where the CRO has been appointed to manage multiple RO during the course of a competition, the CRO is responsible for overall safety and coordination on the range and the RO are responsible for adhering to the direction of a CRO.

The duties and responsibilities of a CRO will not be covered in this package. The CRO requires further training which will be conducted at the Tier 2 level of training for State/National level RO.

## Range Officer Ratios

The following recommendations are provided in relation to the number of RO required to safely and effectively manage shooting. These guidelines are minimum requirements and should not stop the use of additional RO where required for safety reasons - for example more RO may be required during an introductory shoot for new members.

- Target Shooting Static to Static Target firing - one RO per 10 Firers
- Precision Service Rifle or Moving to static/moving targets - one RO per five (5) Firers
- Field and Rimfire - one RO per 10 Firers
- Biathlon - one RO per 10 Firers.

## RO Responsibilities During Adverse Weather

The RO has a legal and moral duty of care to ensure that people are protected on the range. This duty of care extends to all forms of safety, including adverse weather conditions.

In Australia, lightning accounts for 5 to 10 deaths and well over 100 injuries annually. Statistics show that approximately 25% of people killed by lightning are playing sport. Officials must not let the desire to start or complete a shoot hinder their judgment when the safety of shooters, scorers and spectators may be in jeopardy.

Should thunderstorms be prevalent on match day, the '30-30' Rule is to be used to determine whether shooting should be suspended and when it should restart.

**The 30-30 Rule.** When lightning is sighted, count the time until thunder is heard. If that time is 30 seconds or less, the thunderstorm is within 10km and is DANGEROUS. As most experts believe that the 'safe' distance is no less than 10km, all people at risk should be seeking, or already inside safe shelters. This is the time at which shooting should be suspended.

The threat of lightning continues for a much longer period than most people realise. It is imperative to point out that sunshine or blue sky should not fool anybody into thinking that it is safe, and you should remain alert to the possible return of the storm. Once shooting is suspended a period of 30 minutes should be allowed before reassessing. Using the '30-30' Rule, the distance of the storm should be estimated before allowing activity to continue.

When shooting is suspended and where practicable, people should move to a safe structure as soon as possible. The best option is a large building with electric and telephone wiring and plumbing to provide a safe pathway for the current to the ground. If this is not possible an enclosed vehicle can provide a haven. Under no circumstances remain under or near trees. The lethal range around a struck tree is estimated to be 20 metres. Shooting can resume when 30 minutes has elapsed and the 30 second rule has been satisfied.

### Learning Outcomes:

- Range Officials need to manage all aspects of control and safety to ensure the Range is a 'Safe Place'.
- Ranges should have Range Standing Orders and it is the responsibility of the Range Officer to ensure that the shooting activity complies with the RSO.
- Basic safety rules must be enforced, as must range operating restrictions/requirements.
- Range Officers have a set of responsibilities that they must adhere to.
- CRO are required for multiple firings on concurrent ranges and large competitions.
- Adverse weather must be managed to ensure the safety of shooters, spectators and officials.



# CHAPTER 4

## Range Design and Safety

- Range design
- Range Safety

### Range Design

Safety on and around ranges is provided through a combination of safe equipment and safe people (handling skills), safe practice (control measures such as Range Standing Orders), and safe place - safely constructed ranges.

A Range Danger Area is defined as:

*'Those areas of land or water together with a specified volume of air above, within which danger to life, limb or property may be expected to occur, arising from the firing of specified ammunition types.'*

Dependent on the range design and the intended range use, a Range Danger Area (RDA) may or may not be required. The decision about whether or not a RDA is required and how big it should be, will be based on an assessment of the intended range use and range construction. If the range design and intended use are such that:

- Fired projectiles or subsequent ricochets are able to leave the active range area (under normal operating conditions), then a downrange safety area is required;
- Fired projectiles and subsequent ricochets will be contained within the active range area (under normal operating conditions), then a downrange safety area is not required.

The terminology used in this book to describe the different RDA is:

- **No Danger Area Range.** A No Danger Area (NDA) range is a range where, for all practical purposes, all anticipated shots must be contained within the range with a substantial margin of safety.
- **Limited Danger Area Range.** A Limited Danger Area (LDA) range is an open range for which the minimum design requirements are to capture shots so that any resultant ricochet remains within the RDA. It can be expected that some projectiles will leave the area of the range floor either from direct fire or ricochet. Such expectations will result in the need for a limited danger area to ensure all projectiles are contained in a controlled area. See Figure 1 for an indicative design.
- **Full Danger Area Range.** A Full Danger Area (FDA) range is an open range where hazard is only limited by the elevation and direction of the weapon system and the skill of the firer. See Figure 2 for an indicative design.

Typically, NRAA ranges are designed and operated as Limited Danger Area ranges. Use of such a range design means that there are limitations or constraints on how the range is used and the limitations on calibre.

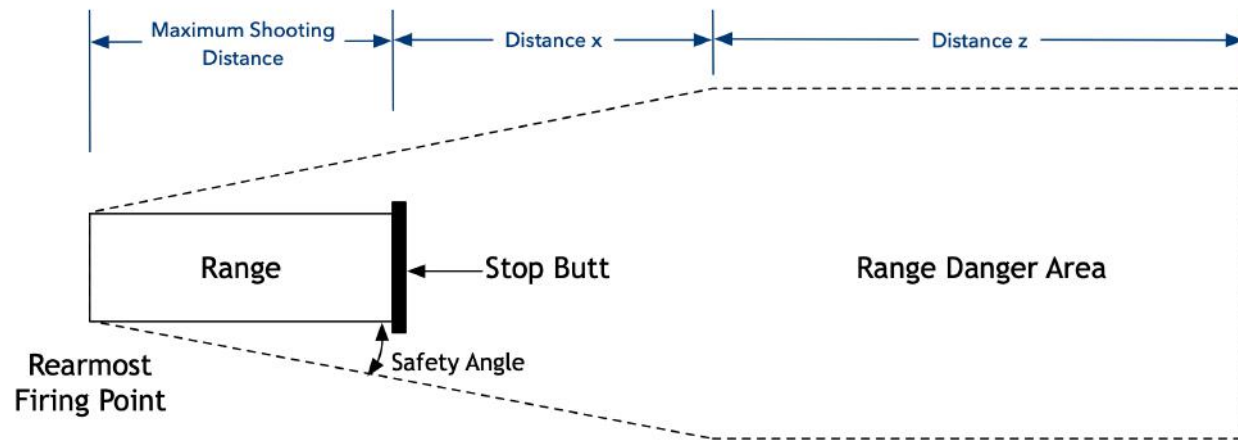


Figure 1 - Generic Limited Danger Area Template

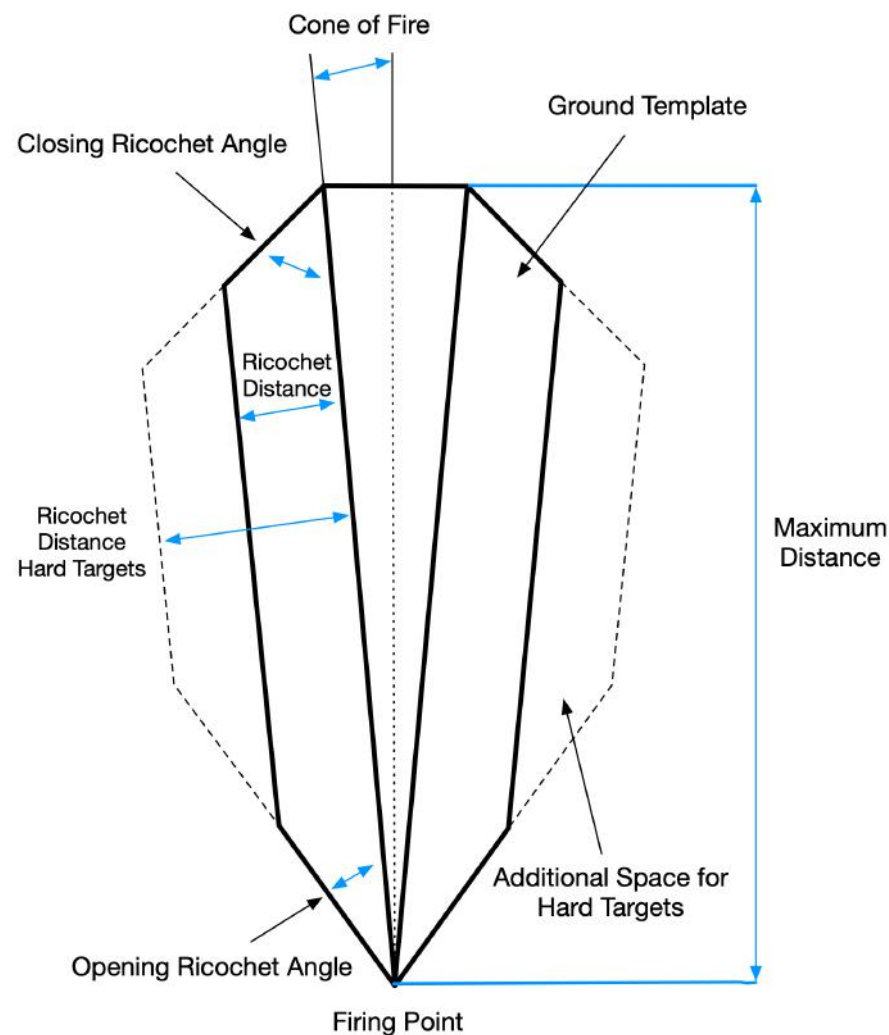


Figure 2 - Generic Full Danger Area Template

## Outdoor Ranges

Outdoor range types vary based on their intended use, the type of shooting to be conducted, the backstop construction and the presence of a significant physical terrain feature such as a hill. The types of ranges that are used in Australia are predominately:

**Standard Range** - A rifle or handgun range that has a suitable backstop and a range danger area, but which does not have a target gallery for target systems and/or target marking personnel. These types of ranges generally have a fixed firing point with multiple targets aligned to set distances.

**Classification Range** - A permanent rifle range with a suitable backstop and target gallery (commonly called a butts) for target systems and/or target marking personnel. These ranges are generally used for long range shooting and have multiple firing points at fixed lengths (eg 300m, 400m, 500m) and a fixed backstop and target gallery. See Figure 3.

**Baffled Range** - A range, typically a pistol or small-bore rifle range, whose design has incorporated a series of overhead and/or ground baffles, or similar construction features, that are capable of containing all fired bullets and ricochets in the range floor. This type of range will generally be referred to as a no danger area range.

**Shotgun Range** - Shotgun ranges designed for shot to be discharged at moving frangible targets thrown on fixed flight paths or within prescribed arcs.

**Field Firing Range** - A rifle or handgun range that does not have any backstops (or has a backstop that is not adequate); however, the range has an adequate safety area (full danger area). An adequate down range safety area is one that has the necessary depth and width to accommodate the appropriate safety template(s) needed for the range's intended use.

## Outdoor Range Terminology

The following terminology associated with danger areas should be understood:

- **Firing Point.** The position on the ground from which firing takes place. It may take the form of a point for an individual firer or a line for a number of firers.
- **Arc of Fire.** The arc within which firing is to be directed, originating from the firing point. For civilian shooting this will normally be a straight line from the firer to the target.
- **Ricochet Area.** This is part of the Ammunition Danger Area that is outside the Arc of Fire. It is the area beyond which ricochets are not expected to travel.

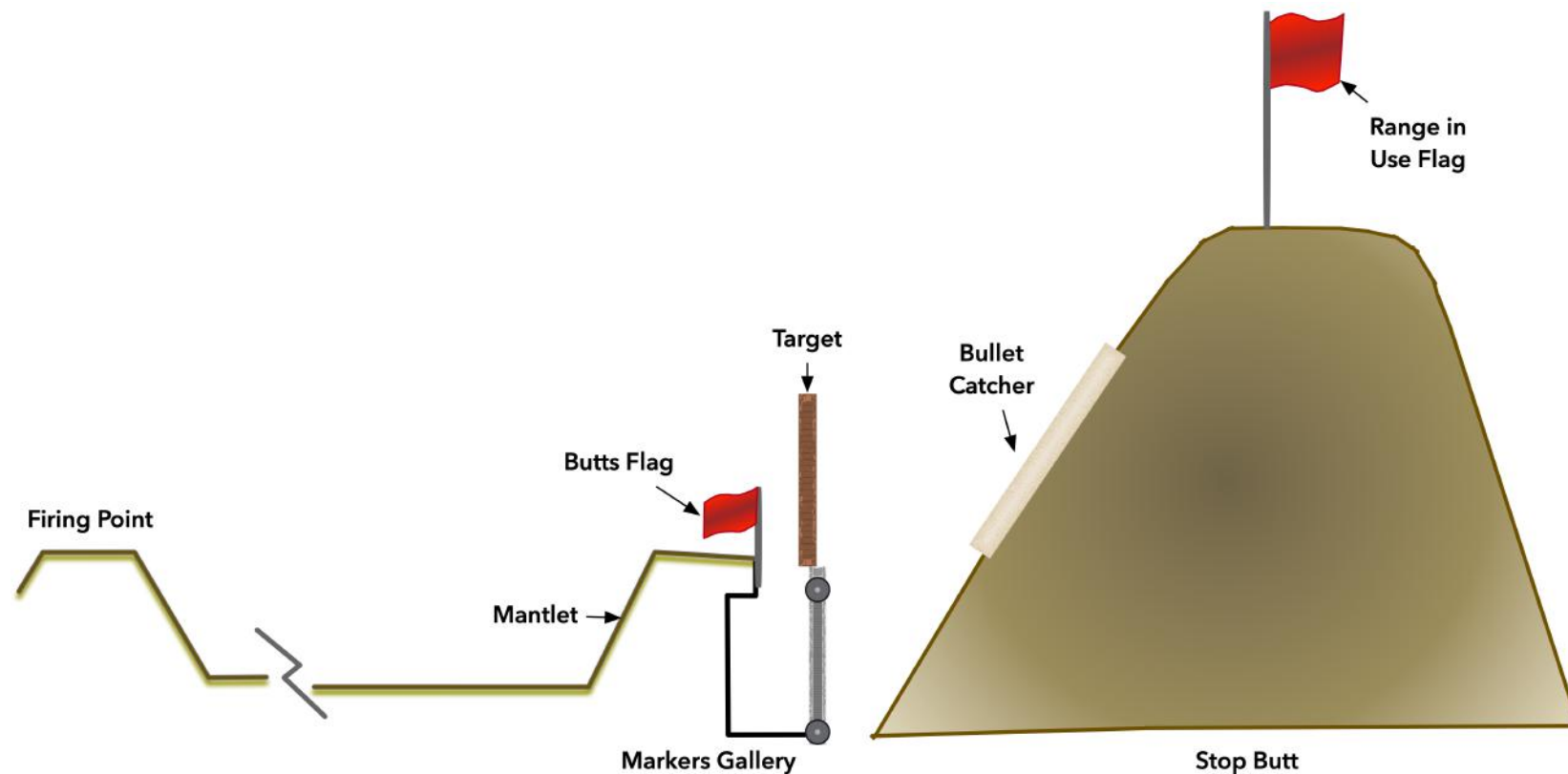


Figure 3 - The Classification Range

- **Ammunition Danger Area.** The total danger area beyond which specified ammunition types are not expected to travel, provided that the firearm is discharged within the permitted angles of elevation and lateral deviation. The Ammunition Danger Area is made up of the Arc of Fire and the Ricochet Area.

### The Classification Range

A Classification Range has a reduced or Limited Range Danger Area because of its range design and construction. In particular:

- The targets and firing points are raised above ground level.
- A high stop butt is positioned behind the targets.
- A mantlet is positioned in front of and below the targets.

**The Firing Point.** A raised mound of earth with a grass, tarmac or gravel cover. Shooting may only take place from the firing point. Numbered pegs placed along the forward edge of the firing point indicate the position of individual target lanes. Normally a firer may only shoot directly at his own target and may not cross fire. Firing points are located at different distances from the targets e.g. 300yds, 500yds, 600yds.

**The Stop Butt.** This is a high bank of sand or similar material into which the bullets are fired. The gradient of the slope should be constructed at an angle of 600 mils (34degrees) and maintained at an angle of not less than 530 mils (30degrees).

**The Targets.** These are made of paper or similar and are pasted onto hessian, wood or plastic mounted on a wooden frame. The frame is then located in a steel frame which is positioned in front of the stop butt. They move up and down on a pulley or cantilever system so that the shot holes can be easily marked and patched out by the target marker in the markers gallery. Can be substituted with electronic targets.

**The Mantlet.** This is the mound of earth protecting the markers gallery. Large number boards visible from the firing point identify each target.

Any deterioration in the standard of maintenance of the range may make the reduced danger area unsafe. The condition of both stop butt and mantlet is important. The range is not safe to use if there are any exposed ricochet-inducing surfaces (e.g. concrete or metal objects) between the firing points and the stop butt.



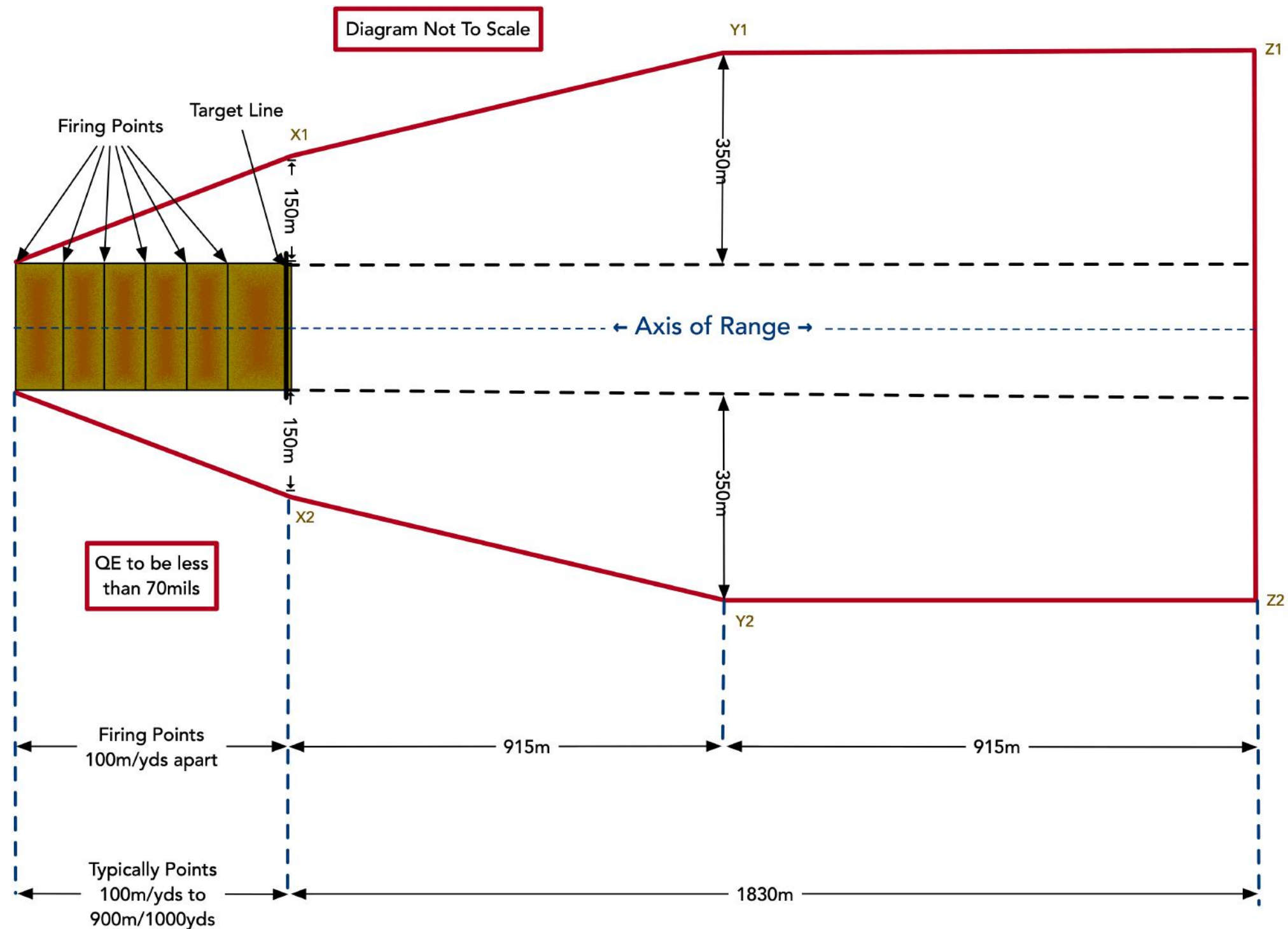


Figure 4 shows the 'Limited Range Danger Area' Template of a Classification Range as designed by the UK MOD in JSP 403 (referred to as a Gallery range)

**The Firing Area.** The number of targets and the number of firing points determine the firing area. A target equals a 'Lane' and a lane may be up to 4 metres wide. Each target has its own lane from its corresponding firing point along which firing must be directed.

- The width is the distance between the outer limits of the flank firing points.
- The length is from the most distant firing point to the target line.
- The axis is at right angles to the target line with an accepted maximum variation of 178 mils (10degrees).

**The Ricochet Area.** The sides of the ricochet area are formed by:

- a. A lateral extension of 150 metres on each side of the target line to the points X1 and X2, extended back to the left and right hand flanks of the most distant firing point
- b. On a line at right angles to the axis and 915 metres behind the target line, a lateral extension on the length of the target line of 350 metres on each flank to the points Y1 and Y2.
- c. A further line, at an additional distance of 915 metres from the target line, to the points Z1 and Z2, where the lines Y1 Z1 and Y2 Z2 are parallel to the axis of the range, forms the remainder of the ricochet area.

**The Range Danger Area.** This comprises both the firing area and the ricochet area:

- a. The length of the danger area, measured from the rearmost firing point, for a 600 metre range would therefore be the firing area length of 600 metres plus a ricochet area of twice 915 metres, giving a total of 2430 metres. Note that the danger area extends to only 1830 metres behind the target line.
- b. It is a condition of the shape of the gallery range danger area that firers are confined to target lanes and that all firing takes place 'in lane' (i.e., Lane 1 fires on Target 1, etc). The basic rule that can be observed is that targets can only engage a maximum of two targets left or right from their current lane.
- c. Air Danger Height - 750ft (JSP403 Chap 15)

### Safety Implications

A 5.56 mm or 7.62 mm round when fired at an angle of approximately 600 mils (34 degrees), can travel as far as 4000 METRES. As Gallery Ranges have reduced danger areas of only 1830 METRES beyond the target line, **ROs must ensure that all loading, unloading, stoppage and inspection drills are carried out with the firearm held horizontally, pointing towards the target.** It is imperative that no shot is fired at a Quadrant Elevation (QE) of more than 70 mils. This precaution will ensure that any negligent discharge will be contained within the ricochet area.

If shots are fired at a QE of more than 70 mils they can be expected to pass over the Stop Butt and may travel beyond the Danger Area. Firers must therefore check that they have the correct elevation settings on their sights before firing.

**NOTE!** The ricochet area beyond the target line is long enough only to contain:

- a. Ricochets, and
- b. Shots fired directly from the firearm with a QE less than 70 mils.

Consequently, hard targets such as steel plates with centre fire ammunition are not to be used (unless a steel plate bunker has been constructed - see JSP 403).

**FIRERS WILL NOT NORMALLY BE AWARE THAT A CLASSIFICATION RANGE HAS A REDUCED DANGER AREA.**

**IT IS IMPERATIVE ALL LOADING, UNLOADING, STOPPAGE AND INSPECTION DRILLS ARE CARRIED OUT WITH THE FIREARM HELD HORIZONTALLY POINTING AT THE TARGET.**

### Field Firing Ranges

Unlike purpose-built ranges, Field Firing Ranges (FFR) may have little or no constructed features. Exceptions may be the inclusion of markers' shelters, range control towers, range wardens' huts and target stores.

It will have range boundary flags and warning signs. Though being considerably larger in all directions than that of a Gallery Range, the Field Firing Area template still does not represent the maximum range of the ammunition. For this reason a Quadrant Elevation of 150 mils is imposed.

A generic template for a FFR is at Figure 2.

The design, application and use of such templates is normally completed by the Australian Defence Force. As such, this manual and the course will not teach you how to construct such a template. If one is required for use, it is important that you contact your State and Territory Police Force and you may wish to seek the assistance of the NRAA Safety Committee and perhaps a current serving or retired Army Officer, Warrant Officer or Senior Non-Commissioned Officer.

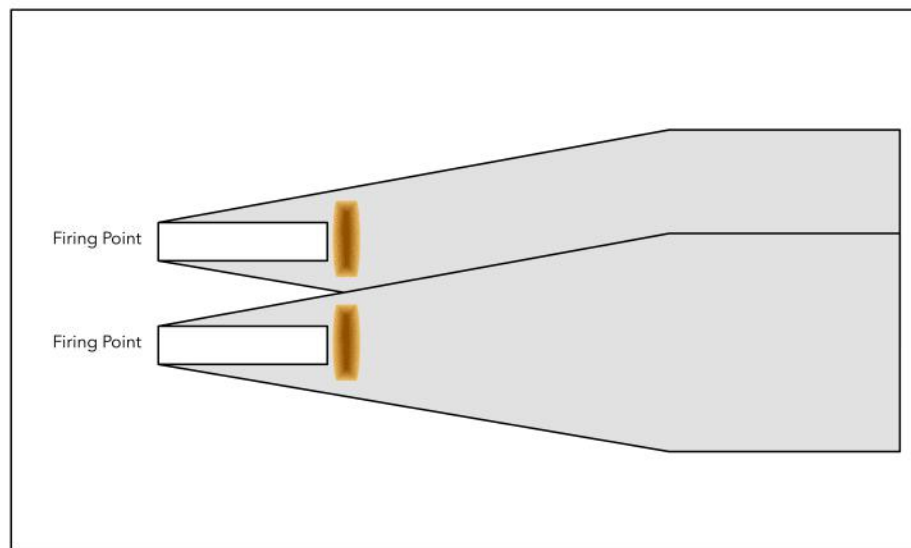


Figure 5 - Adjacent Ranges

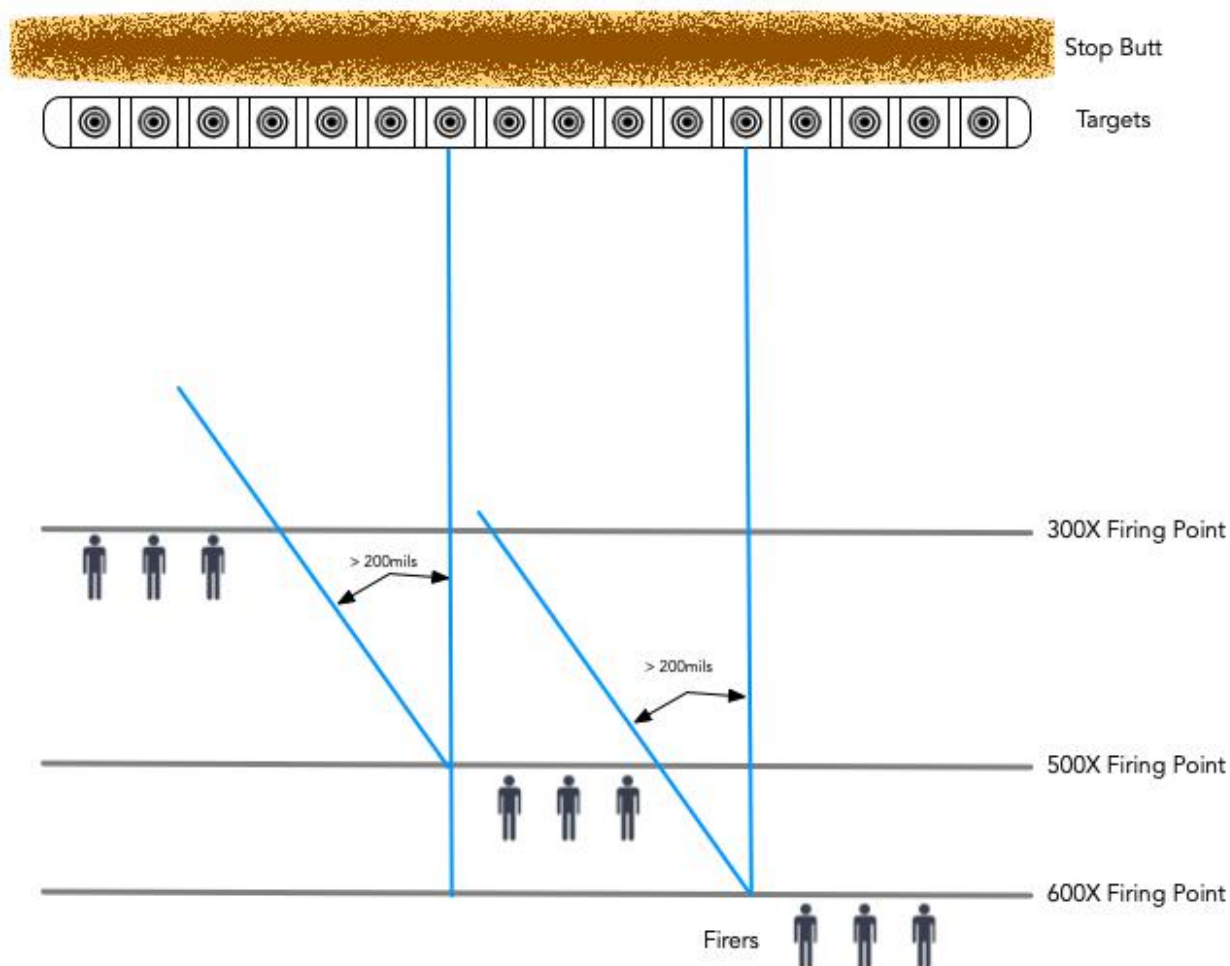


Figure 6 - 200mil Rule

### The 200mil Rule

When ranges are built alongside each other (i.e. parallel ranges) they will share part of a common danger area as the templates will overlap (See Figure 5). This reduces the total danger area space required. Improved flexibility in the use of a wide range is possible by treating it as being two or more separate shared ranges. In both these cases concurrent firing at different distances may be allowed.

- Adjacent use of ranges is governed by the 200 Mil Rule. This means that there must be an angle of at least 200 mils (11.25Deg but normally referred to as 11Deg) between the extreme flank of the rear-most firing point in use and the nearest firer forward of that point as described in Figure 6.
- This is usually achieved by the Range Operator specifying the distances that can be used on each range and by closing-off sufficient target lanes on either or both ranges to achieve the required safety angle.
- RSO for the particular range will state if concurrent firing is permitted and will specify the firing distances and target.
- It may sometimes be desirable for ROs to increase the permitted safety angle; for example, to allow a greater safety margin with inexperienced firers, or require them to fire in lanes remote from the limit of safety.
- When engaged in concurrent firing, the RO must carefully brief the firers on the potential dangers. Everyone must be aware of the possibility of intrusion into the firing area by persons moving across from an adjacent range.

There are very few ranges in Australia where this rule can be implemented. It is common practice at the range in Bisley. In practice, a gap of approximately eight targets per hundred yards is left to ensure that an angle greater than 200 mils is maintained (or 9 targets per 100m).

## Range Safety Implications

**Police Range Approval.** In each State or Territory, the applicable legislation will describe the frequency of range inspections and the subsequent approval process. It is important that ranges are used only when they have a current Police Range Approval.

In most cases, these approvals will describe the range and the conditions which must be adhered to by the club/range operator. These requirements must be reflected in Range Standing Orders (RSO).

**Design Document for Classification Ranges.** Unfortunately, each state and territory will have taken ADF doctrine and made an interpretation. The NRAA position is that the UK Range Doctrine is the most applicable to range design in Australia. This doctrine can be found at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/897841/DSA\\_03\\_OME\\_Part\\_3\\_Volume\\_2\\_June\\_20\\_Updated\\_Page\\_22.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897841/DSA_03_OME_Part_3_Volume_2_June_20_Updated_Page_22.pdf)

Where there are limitations on range space, the New Zealand Rifle Association has successfully introduced a smaller variation of the LDA template. This design has been developed on the basis of a very small cone of fire, which can only be achieved by prone shooting and bench shooting. Consequently there are greater controls required with regard to shooting when using this design. The design can be found at:

<https://nranz.com/assets/Documents/Rules-for-Certifying-Rifle-Ranges.pdf>

**Enforcement of the Range Safety Area.** When the boundaries of a range's Safety (danger) Area have been defined and approved then it becomes a matter of enforcing this exclusion zone. Before any shooting can be done a Range Officer must ensure all people and possibly live stock have been cleared from this area.

To assist with this task Range Standing Orders typically contain some mandatory safety requirements like the installation and use of boundary fencing, safety walls, warning signs, flags and lights for night shooting. In some cases it may be necessary to use sentries. It is important that all these requirements are checked for compliance. Flags and lights need to be flown or switched on before the range is ready for use. A frequent maintenance check of fences, walls and warning signs is also needed.

If for any reason there is non-conformance to the Range Standing Orders by any of these safety items then it's a Range Official's "Duty Of Care" responsibility to close the range for all shooting until such time as repairs can

be made or replacements can be found. Use of unapproved alternatives should not be considered if there is any doubt.

## SAFETY IMPLICATIONS ON LDA RANGES

- Only normal match projectiles can be used. Tracer, armour-piercing and monolithic projectiles are forbidden as they increase the ricochet risk (it is proven that they ricochet more).
- Hard [reactive] targets are forbidden, unless a specialised bunker has been built in agreeance with JSP403.
- Targets should only be placed in the target carriers. Reactive targets such as plastic bottles and [biodegradable] shotgun clays should be placed on the stop butt near the bullet scopes or on the face of the mantlet. People should not be in the markers gallery as a general rule when using such targets.
- If the range meets the JSP 403 LDA design criteria, then shooting from 100m to 600m can be conducted in the standing, kneeling and prone positions. At 700m and beyond all shooting must be conducted in the prone supported position, or from a bench. Standing and kneeling at those ranges are forbidden.
- If the range meets the NZ Design Criteria then only prone and bench shooting can be conducted, regardless of the distance.
- All loading, unloading and remedying of malfunctions should occur with the muzzle pointed at the targets. NO EXCEPTIONS.
- Only practices approved by the NRAA and in accordance with the Police Range Certificate should be conducted.

**SAFETY IS EVERYBODY'S RESPONSIBILITY. IF YOU SEE AN UNSAFE ACT STOP IT IMMEDIATELY.**



Sentries to patrol safety area boundaries is another strategy that is used to keep a range safety area clear. Range Standing Orders would specify their location and a minimum level of communications with a Range Officer. They are typically used on centre-fire rifle ranges with large range safety areas where it is likely people could enter unaware of the danger.

Operations of an adjoining range may also impact on a range safety areas.

Overlapping safety templates may cause restrictions to people's movements on one or both ranges. With ranges where firing points move up and down the range this impact may not always be obvious.

## **Projectile Trajectory**

A bullet's trajectory is determined by its calibre, speed and the type of firearm that fired it.

Centre-fire cartridges have projectiles that travel (>6Km) and ricochet (500m) the furthest because they are generally the fastest and heaviest. As a consequence these ranges must have the greatest full danger area or the greatest safety control features.

Rim-fire cartridges have smaller projectiles that can travel (<2Km) and ricochet (80m) significantly less distance and travel slower than most centre-fire cartridges. Therefore the total danger area is much smaller and safety features can be but are not necessarily at a lesser level.

Shotgun cartridge projectiles are small pellets of lead, the heaviest of which can't travel more than 700m but can ricochet almost half this distance. Because of this feature the dimensions of the danger area are very different, wider but shorter than the previous two cartridges.

Other projectiles, black powder projectiles and air rifle pellets also require specific danger areas that match their characteristics.

Barrel length also determines a projectile's trajectory. Typically a Pistol's shorter barrel results in a shorter but wider trajectory. They also have a wider human error dispersion angle. Hence Pistols generally require more safety control features to be installed on ranges to ensure the same level of safety as a rifle range.

## **Use of Flags**

Red flags are used to indicate danger. Red flags on the range boundary, within the range area itself and at each individual range indicate to people that the range is in use. The recommended flag is a Cloth Red Warning Flag of a minimum size 120 x 90cm, flown on a flag pole (for permanent poles that

should be at least 5m tall, for portable poles/stands they should be at least 1.5m tall). The procedures to use red flags are:

- Red flags are to be flown on days of live firing at the entrance to the range complex.
- A red flag is to be at the firing point.
- Ranges may specify the use of other red flags in RSO to coordinate the safe operation of the range, for example in the Butts for safety of markers.

Red flags are to be raised in a prominent position at any roads or track systems that are cut by an RDA trace.

These flags/flag poles shall be located in a conspicuous position, clearly visible to people approaching the range. When the range is not in use, either a GREEN flag or no flag at all shall be flown from the flag pole.

## **Shooting at Night**

When shooting at night, red flags are to be replaced by red lights of sufficient strength that they are easily seen from 50m. Additionally, the left and right of arc for the range should be identified by a coloured light source. RSO should identify where appropriate lights are to be placed. Additional considerations include:

- Ensuring that gates and/or access are controlled, which may also include the need for a sentry at an access point.
- The need to illuminate various control measures which have been put in place, including the entrance sign/flags.
- Lighting of targets.
- How markers can be safely managed, or the removal of markers to reduce risk.
- Clearance of the range firing point area and potentially the RDA, depending on access control, signage and likelihood of people and livestock entering the area during a night shooting activity.

Shooting should not be conducted at night unless these issues have been addressed and adequate lighting is in place.

The clearance of firearms can also be more problematic at night. RO should use a torch to clear all firearms before they leave the firing point.



Figure 7 - Entrance Sign

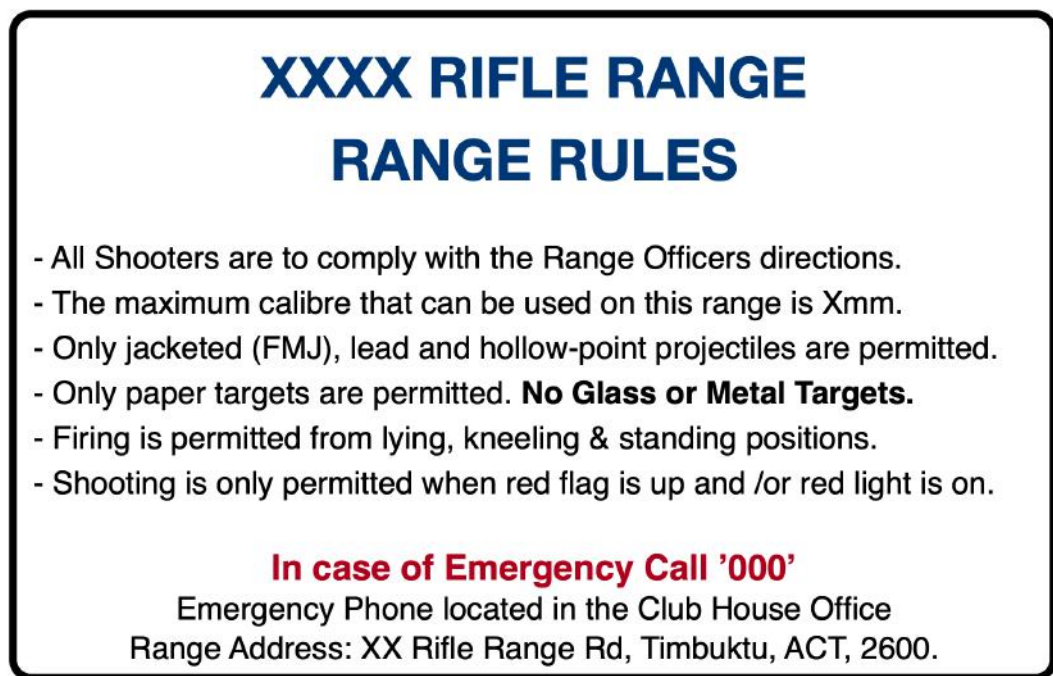


Figure 8 - Range Rules

## Annex A to Chapter 4 - Recommended Signage

The purpose of this Annex is to expose RO to appropriate signage for Ranges.

**Entrance Signs.** Entrances to a range or range complex should identify that the range is in use and that caution should be exercised by visitors. An example of a range entrance sign is at Figure 7.

**Range Safety Rules Sign.** It is recommended that each individual range within a facility shall have a sign on which the key range restrictions and safety rules are listed (See Figure 8). These signs shall be affixed to a building, post, frame or other permanent object such that they are clearly visible to all users as they approach the range. Range complexes may need multiple signs for each range. The Range Rules Sign should contain the following information:

- Maximum calibre of firearms to be used on the range.
- Prohibited bullet natures (e.g. tracer, monolithic).
- Types of targets permitted (e.g. paper) and those prohibited (e.g. glass ).
- Permitted shooting activities (e.g. firing positions, distances, etc).
- Brief explanation of the warning flag or beacon system.
- In Emergency ring 000, the phone location and address of range.

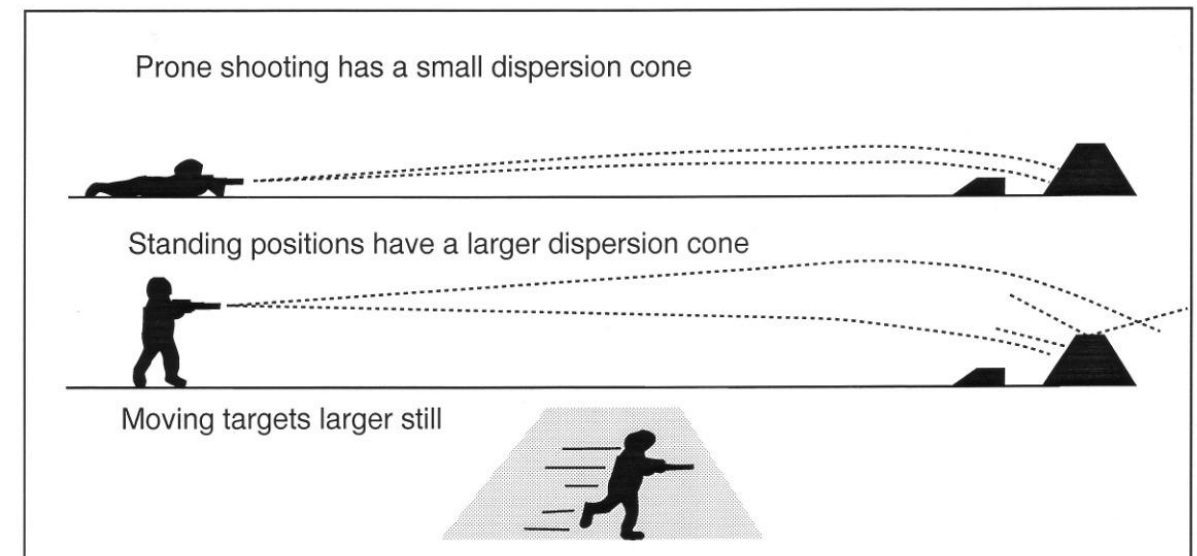
**Range Area Boundaries.** The land boundary of a range should be marked with permanent warning notices to warn the public they are about to enter a shooting range safety area. The signs should be placed on the fence at distances so set apart (approximately every 50-100m) so that when standing at one sign, the signs to the left and right of that sign are visible. By doing this it is reasonable to assume that anyone approaching the fence will see at least one sign if not two. The fence should be that of the standard required of a normal rural fence. Signs should meet Australian Standards, and an example boundary sign is at Figure 9.



Figure 9 - Boundary Fence Sign

### Learning Outcomes:

- Range Officers must understand basic range types and their differing designs.
- The design of range will limit its use, whether that be by type of shooting conducted or the type and calibre of firearms that can be used.
- The LDA Range Design is the most commonly used range design for NRAA matches.
- The LDA Range Design, by default, places constraints on how firearms are to be loaded and unloaded at the range.
- Flags and signs are important control measures to ensure that the range is a safe place for all people.
- Shooting at night requires additional control measures.
- Only approved practices, regardless of the range type, should be conducted.



# CHAPTER 5

## Running a Range

- Range Commands and Actions
- Running a Range Sequence of Events
- What to do?
- Range Butts Operation
- Annex - Management of Biathlon Practices

### Range Commands and Actions

Safety relies on people understanding various words commands, the appropriate firearm handling skills and actions and safe procedures. The following words of command can be used and are reflected in SSR.

**THE RANGE IS OPEN - YOU MAY / MAY NOT COMMENCE SHOOTING.** Shooters may move their equipment to the firing point (FP) and establish their position. Typically the RO would state "you may commence firing when you have a scorer". In competition a preparation warning time may be given with shots to/not to be fired. The red flag is removed.

**THE RANGE IS CLOSED.** Typically announced by the RO when all firers have completed their strings. The red flag should be in place. The RO must stay on the FP to ensure that people do not move up to the FP and resume shooting.

**STOP STOP STOP.** Can be announced by any person on a range when they see an unsafe act or the emerging potential for an unsafe act to occur - an example being encroachment by people into the danger area on motor bikes. Once STOP STOP STOP or CEASE FIRE has been given the RO must react to the situation. Shooters should stop firing and the next command would typically be CEASE FIRE - UNLOAD.

**CEASE FIRE.** On the command cease fire - like STOP STOP STOP all shooting should cease. The RO should then decide on a further course of action. If the UNLOAD command has been given, depending on the time frame of the break/interruption the RO shall:

- If it is a short break, that does not involve people moving forward of the FP, after the command UNLOAD, the RO may decide to leave people in place. The RO shall, with or without the use of deputy, check that all bolts have been removed and that a ECI is in place. The RO should tell shooters to 'REMAIN IN PLACE IN THE UNLOAD CONDITION'. The RO should ensure that firers remaining in place do not fiddle with ammunition, bolts or take sight pictures. An example of when this may be used is the restarting of electronic monitors.
- If it is a long break, the RO should after the command UNLOAD advise shooters to 'UNLOAD AND RETIRE FROM THE FIRING POINT'. The RO must ensure, with or without the use of deputy, that all bolts have been removed and that an ECI is in place before the firearms leave the FP. When people are forward of the FP, firearms must be removed from the FP.

**UNLOAD.** On the command UNLOAD - the shooter shall close the bolt completely and without pressing the trigger, re-open the bolt, drawing it back to its full length, remove the bolt AND insert an empty chamber indicator. On the order being given to unload, every person on the FP with a rifle, whether actual shooting, preparing to shoot or otherwise, shall go through these unloading motions with the muzzle pointing towards the targets.





Range Commands Used for Service Rifle Matches / Field Class Matches:

**LOAD.** On the command 'LOAD', the competitor is to place a loaded magazine onto the rifle or place rounds manually into the magazine by virtue of a charger clip or by single round loading, or by direct loading to the chamber of the rifle. The action is to be in the opened condition until the command 'ACTION' is given.

Before a walk down match, the rounds are to be depressed into the magazine and the action is to be open. The RO is to ensure that this action is carried out before the competitors depart from each firing point. The muzzle is to be directed towards the butts area and the trigger finger is to be kept outside the trigger guard.

**ACTION.** On the command 'ACTION', competitors are to close the action in a manner that feeds a round into the chamber. The rifle is to be in the shoulder whilst chambering a round with the muzzle pointed towards the butts area. The trigger finger is to be kept outside the trigger guard.

**IS THERE ANYONE NOT READY?** If the competitor is not ready to commence the practice, i.e., not in the action condition, they are to indicate to the RO in an appropriate and safe manner.

**WATCH AND SHOOT** or **IN YOUR OWN TIME GO ON.** On the command 'Watch and Shoot', or, 'In Your Own Time, Go On', the finger may be placed inside the trigger guard and upon the appearance of the targets, the competitor may commence firing in accordance with the match conditions.

**UNLOAD.** On the command "UNLOAD", the action of the rifle is to be opened, the magazine removed and the chamber and the magazine are to be inspected by the competitor to ensure that both are free from live rounds or empty cases.

**INSPECT FIREARMS.** On the command "INSPECT FIREARMS", the competitor is to remove the bolt and magazine from the rifle if possible and present the rifle and magazine for visual inspection by the range safety staff. If not possible, the action is to be in the open position for inspection by the range safety staff. There are to be two safety officers who, starting from each end of the line, will each independently inspect the chamber and the magazine of the rifle, thereby ensuring that both are clear of any live rounds or empty cases. Once inspected, each safety officer will audibly declare each competitor's rifle 'Clear' before proceeding to the next competitor. As the two safety officers meet and their duties overlap, the audible order will change to 'Clear to Remove'. Then and only then, will any competitor be free to remove the rifle from the FP. An ECI should be inserted post inspection by the RO.

## Running a Range

**Management of Range Operation.** Before any Range Official can consider a range safe for use it is important to establish that its approval is still current and mandatory checks have confirmed there is compliance with EVERY obligation contained in the Range Standing Orders. Non-compliance with just one obligation is sufficient to suspend ALL shooting. At a minimum a range should:

- Have a current set of Range Standing Orders (RSO) that describe how the range is to be established and operated.
- That the range has a current Police range approval.
- That the Rules being used (in the case of NRAA the SSR) and that the targets and application of fire conform to the Police Approval and the RSO.
- That the range is being run by an accredited Range Officer.
- That the range has insurance that covers both the shooters and the officials (under NRAA policy, a NRAA affiliated club shooting to the rules of SSR, by NRAA members and being controlled by an accredited RO shall be deemed to be insured).

**Warning.** Range officials and operators who stray outside of the Range approval, RSO, SSR and allow non-NRAA members (apart from new shooters) to participate in what is effectively an un-controlled shooting environment potentially expose themselves to personal litigation, that is they may not be covered by the NRAA insurance policy.

## Before Shooting Planning

**Introduction.** Range space and time are always at a premium. It is in the interest of the club and its members that every effort is made to use a range allocation to the full. This will require detailed planning by the RO and a thorough understanding of range safety matters by all users.

**Range Reconnaissance.** A reconnaissance of the range in advance of every shoot is desirable, and is essential when using the range for the first time. It enables the RO to establish what facilities are available. They can brief (and be briefed by) the Range Operator and can confirm details of the target requirement. Any amendments to RSO should be checked during the reconnaissance. The following points should be checked:

- On Classification ranges: access to the marker's gallery and access from the target store to the gallery.
- Establish responsibility for, and location of, all range boundary flags, sentries/lookouts and barriers.

- Confirm actual permitted firing hours.
- Any relevant local factors.

**Range Standing Orders.** Planning must take into account all regulations applying to the particular range. It is essential that a copy of RSO is obtained and read before planning starts.

**Pre-shooting activities.** Activities to be completed by Range Officials prior to any shooting and/or firearms being placed on the firing line should include:

- Confirm the Range Safety approval is still current and adequately displayed for reference by all range users.
- Check RSO and use any Range Guides to ensure specific activities are completed down-range prior to shooting – i.e. raise safety flags; lock doors and gates, notify neighbours etc.
- Ensure the range danger area is secure and clear of people, sentries in place.
- Check that all targets are set up correctly in approved locations and heights.
- Ensure all range management systems are ready eg. there is good communication with the butts via radio or telephone. This may include seeking permission to fire from a Range Control organisation.
- Ensure the availability of fire and other emergency equipment as required by the RSO or other risk management strategy.

**Beginning of Any Periods of Shooting.** Once a range has been prepared and all RO are satisfied it is ready for use the users can be instructed to begin their preparation to start shooting. RO still have important actions to take during this preparation time.

- Ensure that nobody remains or moves forward of the firing line unless permission has been granted to do so.
- Make sure that the Safety Triangle principles are adhered as participants handle firearms and ammunition on the range – all firearms are unloaded and bolts removed / ECI inserted unless on the firing line.
- Check that only approved types of firearms and ammunition are going to be used by shooters on the firing line and confirm that all shooters know and comply with all range safety requirements.
- Ensure any novice participants have and will continue to receive adequate levels of supervision during shooting.

Provide clear instructions to participants when:

- Preparation times begin.





- It is safe to get into position for shooting.
- How long the next shooting session will last and possibly any additional time calls that will be made.
- What to do if anyone needs to get the attention of a RO to notify of any irregularities.
- Ensure no firearm is loaded until the command "COMMENCE FIRING" is given by the RO, or Chief Range Officer (CRO).
- Ensure the ratio of RO to participants is adequate and in accordance with those specified in the RSO.

**During Periods of shooting activities.** Once the CRO/RO has given the command for shooting to commence the RO's principle responsibility is to stay alert and ensure everything is done safely by everyone. Specifically the following actions are mandatory:

- Remain in position to ensure proper management of the shooting in progress. i.e. Able to clearly see all participants and down-range to all required areas.

- The "STOP STOP STOP" or "CEASE FIRE" command is clearly made for all participants to hear as soon as there is a breach of any safety down-range - i.e. a person can be seen in the danger area.
- The RO follows any direction given by the CRO to maintain range safety or to perform competition management activities.
- Responds quickly to assist any participant who requests assistance with an irregularity and/or malfunction.
- Renders immediate assistance when a participant is in apparent physical distress - fainting, heart attack, epilepsy, etc.
- Checks before any participant leaves the firing line that their firearm is unloaded AND BOLT REMOVED AND ECI INSERTED.
- Actively monitor scorers to ensure that all rifles are checked before leaving the FP.
- A suitable replacement is in position if an official has to leave their position.
- Ongoing communications checks with the Butts Party and/or the Range Control organisation.



## Conclusion Of Any Periods of Shooting

A RO's first role when a session of shooting has ended at the planned time or as a result of a safety incident is to ensure all firearms have been unloaded and this has been checked. These activities should be included in the Range Orders and/or Operational Plan. To ensure this is done safely, actions required are:

- First, to clearly give the command "STOP" or "CEASE FIRE" loud enough that all participants can hear.
- Ensure that all firearms are individually inspected to ensure they are unloaded and action is open, all live ammunition has been removed and the ECI is inserted into the chamber.
- Instruct shooters to remove their firearms and equipment from the firing line.

## Post Shooting - Closing Down the Range Activities

After a range has been closed for shooting a RO is required to ensure all participants, users of adjoining ranges and the general public can clearly see that the range is no longer in use. These actions clearly define the end of a RO Duty of Care responsibility to participants but not the organisers or the public.

These actions should include:

- Lowering of safety flags and/or turning off warning lights.
- Removal and safe storage of any other safety signs & equipment.
- Inspection of range area to advise organisers of any items that require maintenance for future safe operation of the range.
- Close down any communications.

## What to do - Actions On

During the course of the shoot, it is highly likely that something will happen and you as the RO will need to react to that particular event and direct on an appropriate course of action.

Specific attention to risk management strategies is required when responding to unexpected situations like firearm malfunctions or associated equipment failures or irregularities.

- The first action of a RO should be to determine what the problem is by approaching the participant cautiously and get an explanation from the participant.
- The participant should be instructed to stay in position, if possible, until a safe strategy can be devised.

- Where an unknown incident has resulted in a shooting injury the "STOP" or "CEASE FIRE" command should be immediately given until it can be clearly established what caused the injury.

To access the risk posed by a malfunction or irregularity the RO may need to:

- ask the user more questions about what happened, and
- as safely as possible make further examinations of the firearm and/or down-range equipment to determine the full extent of the problem.

Only when all risks are identified can a strategy to safely recover from the malfunction or irregularity be devised. If the RO does not have a level of technical knowledge to clearly establish the safety level of the situation the user should be instructed to leave their firearm pointing down range until someone with the required skills can be found to assist.

Shooting should only resume when it has been clearly established that it is safe to do so.

## Management of Incidents

An incident is an accident, dangerous occurrence or potential accident. This section provides an overview of incident management, reporting and subsequent possible investigation by local Police or the NRAA. The site of an incident will contain vital evidence for determining its cause. No attempt is to be made to alter or remove evidence from the scene other than to make the immediate area safe and to treat injured personnel.

It is critical that appropriate treatment and evacuation is provided for casualties in order to save life and limb.

**Incident Scene Preservation.** Preservation of an incident scene is critical post a serious incident, where death and/or injury has occurred. Scene preservation involves the protection of both the scene and physical evidence at the scene. Securing and protecting an incident scene will enable a more accurate reconstruction of the incident and assist the subsequent investigation or review of the incident.

**Reporting.** Any incident is to be reported, at a minimum to the Range Operator and/or Club Committee. Depending on the type and severity of the incident, the NRAA should be informed and the rifle/ammunition be taken into custody for further examination. The SSR has the procedure to be followed for such an incident/accident.



## Incident Management Procedure

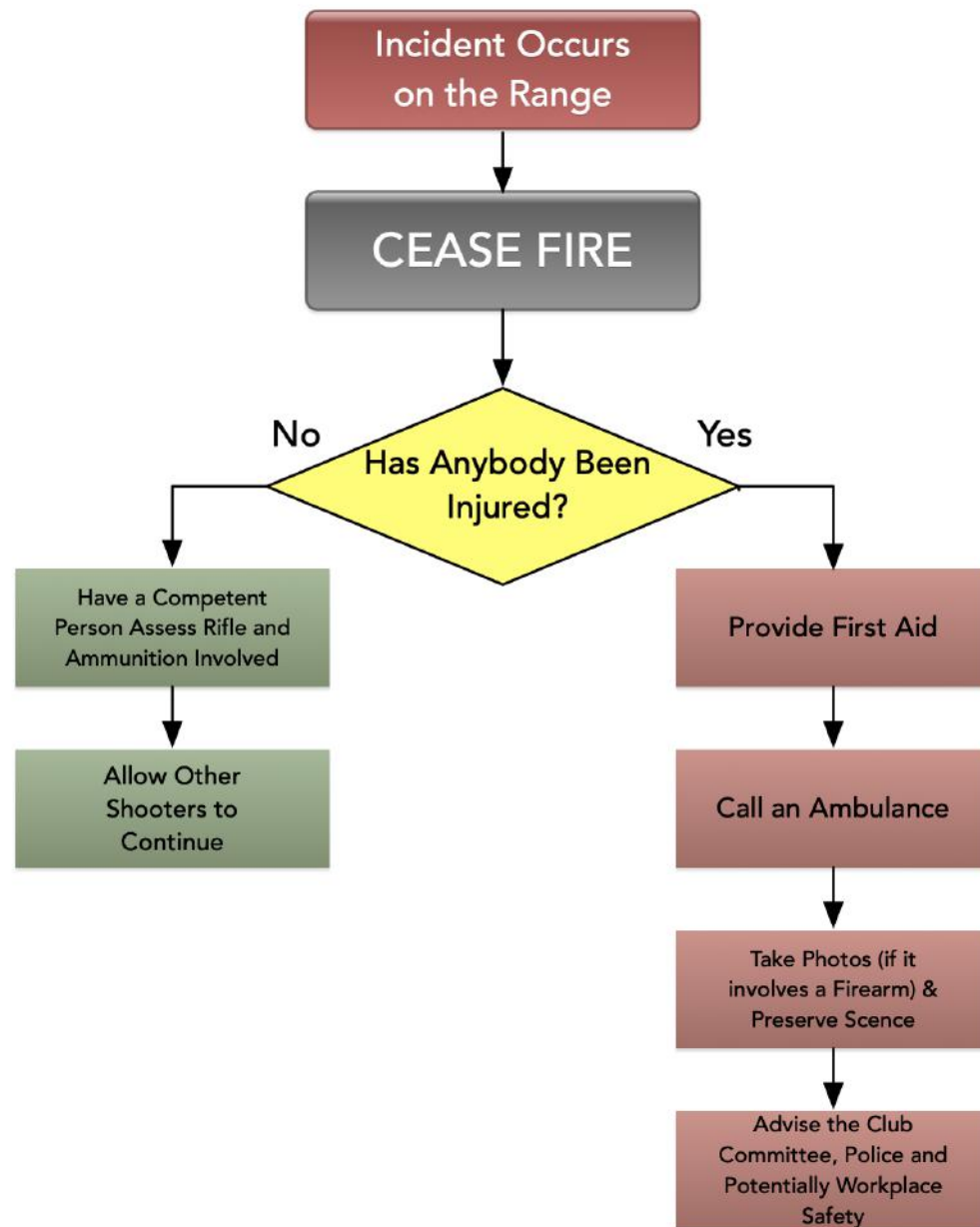


Figure 10 - Incident Management Procedure

**Incident Management Flow Chart.** The actions to be taken in the event of an incident are depicted in the flow chart at Figure 10.

### Specific Likely Issues - What you can do

**Stuck Case - Fired.** The RO should have the shooter cycle the bolt. The RO must confirm that the case is FIRED and have it substantiated by the scorer/ another shooter. Once ascertained it is a stuck FIRED case, the most logical option is to use a cleaning rod. The cleaning rod should be placed into the muzzle with the muzzle pointed down range. If there is any doubt use a live case extractor.

**Stuck Case - Unfired.** The RO should have the shooter cycle the bolt. Once confirmed by the RO that it is an UNFIRED loaded round, a live case extractor must be used. In the majority of cases this will resolve the issue. If the case can not be removed, then the firearm should remain on the mound with the muzzle pointing at the stop-butt with the bolt removed. If a gunsmith can not be found, then the rifle is to be removed from the FP and taken to a competent gunsmith. The firearm should be placed in the car without the bolt fitted.

**Faulty Firearm.** A faulty firearm can show itself in many different forms - poor extraction, failing to strike the primer with sufficient force to instigate ignition, through to trigger faults like sear engagement. If a firearm fires on bolt closing or repeatedly fails to fire, the underlying cause could manifest into a more dangerous occurrence. If the RO identifies such issues, the most prudent option is to have the rifle cleared and removed from the firing point until it can be inspected by a gunsmith.

**Ammunition that Does not Fit or Requires Force.** One of the most likely occurrences that an RO will face is ammunition that does not fit the chamber of the rifle - demonstrated by extraction issues or in extreme cases the shooter closing the bolt through excessive force such as using a hammer. The RO is to stop the shooter after ascertaining that all of the ammunition may not fit - ie it is not a once off. Factory or alternate ammunition should be sourced. Under no circumstances should the faulty ammunition be used.

**People in the Danger Area.** Once an individual or the RO identifies that unauthorised people are in the Danger Area the command "CEASE FIRE" must be given. Once rifles have been cleared, then the RO should coordinate the removal of people from the danger area.

**Misfire.** Should a competitor have a misfire they are to immediately advise the scorer, and while the rifle is still aimed at the target, wait for 30 seconds before opening the bolt to avoid the chance of the cartridge firing in an open chamber.

## Negligent and Unintentional Discharges

**Negligent Discharge.** A negligent discharge is either a shot fired, whether in a safe direction or not, without the order to fire having been given or after the order to stop firing, or a shot fired after the order to fire has been given but in an unsafe direction.

A negligent discharge will usually arise from a breach of safety rules and may occur either on or off the FP.

Negligent discharge on the FP, which does not cause injury. The RO should take the following action:

- Ensure and/or make the situation safe.
- Confirm the circumstances as to why the shooter has fired. Ensure they are penalised in accordance with SSR and that they and the scorer are told of their error.
- When the detail has finished investigate the circumstances of the discharge. Determine if there was a breach of safety and, if so, how serious. Consider and apply an appropriate sanction

**Negligent discharge away from the firing point.** The RO must take whatever action is appropriate at the time having regard to the seriousness of the matter.

In such circumstances the firer must, at the very least, be suspended from further participation and dismissed from the range. A Report must also be sent to his Club/Association.

**Unintentional Discharge.** Unintentional Discharges can arise in different circumstances during rifle practices.

- Target Rifle. If a round is accidentally fired at a target after a shoot has started, i.e. after an order to load and fire has been given, and was deliberately aimed at the target, there is not normally any safety implication. The firer has either fired at the wrong target or fired out of turn at his own target and would be penalised accordingly under the rules. The RO should simply apply the Rules governing that particular discipline.
- Precision Service Rifle. A round fired at any time following the command "Load" will be considered to be an Unintentional discharge, providing that the gallery rifle/pistol is pointing in a safe direction, i.e. towards the targets, and there has been no breach of safety. The RO should take whatever action is required by the rules governing that particular discipline.

**NOTE: The essential difference between a NEGLIGENT and an UNINTENTIONAL Discharge is that the former will constitute a breach of safety whereas the latter may not. Positive and immediate action is required by the RO for the former, whereas for the latter the application of the discipline rules will be all that is required.**

## Communications

When staff are placed in the butts for marking purposes or a sentry is required, communication to either or both parties is mandatory. The following procedures should be applied:

**Firing Point to Butts.** If communications to the butts fail, it is the duty of the RO to make physical contact with the butts. The RO must remain in control on the firing point so contact with the butts will have to be made by a responsible person but only after firearms have been unloaded and cleared and the firers and firearms are removed from the FP.

**Butts to Firing Point.** If the butts supervisor is unable to contact the FP he is to lower the targets and raise the butt flag while remaining under cover with the butt party until contacted as above.

**Sentries/Lookouts.** RSO will specify the means of communication to lookouts, manned barriers etc. In the event of the failure of communication with the sentry/lookouts, the RO must be informed at once. Firing must be stopped and communication restored before shooting is resumed. It is recommended that sentries and lookouts be required to contact the RO at regular 30 minute intervals.

**Telephone/Radio Code Messages.** For clear unambiguous routine communication between firing point and butts, the RO is strongly recommended to use the NRAA system of code messages. These are listed at below.

## NRAA Code Messages

1. Examine target for a hit.
2. No spotting disc is visible.
3. Spotting disc disagrees with value signalled. Examine target and re- signal correct value of that shot.
4. Competitor disclaims hit marked and challenges for another hit on target.
5. Competitor has challenged and claims a hit although none has been signalled.
6. Competitor has challenged and claims a value other than that which has been marked.
7. Competitor requires target to be examined and returned clean before firing. If a shot hole is found , it is to be patched out **without being signalled**. If the competitor has challenged the target for this purpose, the Butts Office shall be so advised.
8. Marking is too slow – Hasten. [Butts Officer should tactfully try to find the reason].
9. Dummy too low – Raise.
10. Target too low – Raise.
11. Scorer has missed marking – re-signal value.

## Butts Officer

The butts are controlled by the RO from the firing point through the Butts Officer (BO). The following rules apply to activity in the butts:

- Range Standing Orders (RSO). Specific safety instructions for the butts are contained in the RSO for each particular range and should also be displayed in the butts. Typical orders usually deal with matters concerning safe means of access to the butts. The BO must take note of any RSO requirement and brief the markers party accordingly.
- Butts Flag. The butt supervisor must understand the rules for using the butts flag, including when it may be raised in an emergency. Generally, the Butts Flag is RAISED when shooting is NOT IN PROGRESS and is LOWERED WHEN SHOOTING IS in PROGRESS.
- Communications. These must be tested immediately on arrival in the butts, including any back-up system if supplied and any necessary contact with sentry/lookouts. The butt supervisor must be aware of the action to take if there is a communication breakdown with the firing point or lookouts. If communications fail and can not be re-established the BUTTS FLAG SHOULD BE RAISED and the RO must STOP Firing.
- Markers Party. The markers must be instructed to remain under the cover of the markers' gallery at all times. They are not to leave the butts without permission, which will only be given after the stop butt flag has been raised.
- Equipment. The BO will liaise with the Range Operator/Club regarding collection of targets and butt equipment. At the end of the shoot the BO is responsible for returning all targets and stores and handing the butt back to the Range Operator/Club in good order.
- Hearing Protection. The BO is to ensure that all those in the butts wear hearing protection when required by range orders.

## Managing Bad/Inappropriate Behaviour/Sanctions

There will be occasions when an RO must apply sanctions, on behalf of their Club Committee, to enforce range discipline and safe behaviour.

The RO is responsible for all aspects of conducting live firing. They therefore have the authority to take such disciplinary action as they consider appropriate for the safe conduct of shooting.

This authority is not limited just to the firing point and butts during the time shooting is in progress but extends to the entire proceedings of the shoot and the whole range area.

### **Action by the Range Officer**

In the event of a breach of safety rules or any other behaviour likely, in the RO's opinion, to cause a dangerous situation, the RO's initial action must be to make the situation SAFE. This is likely to entail the temporary cessation of firing.

The RO should then investigate the circumstances and, if they consider the offender to be culpable, decide on an appropriate sanction. As to what constitutes a sanctionable offence is a matter for the RO's judgement, using safety as the absolute criterion. Increased supervision may allow an individual to continue.

The RO may wish to reflect that breaches of safety are seldom the result of deliberate intent but are generally the result of thoughtlessness or momentary loss of concentration. When the situation is safe the detail may be allowed to continue if appropriate.

### **Types of Sanction**

Available sanctions vary from a verbal reprimand to immediate dismissal from the range. A major offence ON the firing point is best dealt with by dismissal from the range.

A more serious view is taken of an offence occurring OFF the firing point and the minimum sanction must be dismissal from the range. Such an offence could be, as an example, an individual cycling rounds in their chamber to see if they fit, at the back of their car.

Where a sanction entails dismissal from the range the RO must give a written report of the incident to their Club Committee which will consider further reporting if required.

### **Safe Management of Practices Involving Fire and Movement**

There are a number of practices in the SSR which include the use of Fire and Movement. Essentially this Fire and Movement consists of shooters moving forward to engage targets whilst carrying a loaded firearm (refer to the range commands on Page 30). These types of practices also involve firing from other positions.

The use of Fire and Movement, inclusive of shooting from other positions increases the risk profile, especially for shooters who are less experienced in safe handling of firearms. As a result, the need for greater supervision requires a greater number of RO per number of firers and potentially the use of a CRO.

It is important that the RO pays particular attention to firers actions with the firearm including muzzle awareness. Specific issues that should be managed:

- When moving forward, the firearms should only be at the LOAD condition. The RO should ensure muzzles remain pointed at the stop butt.
- When walking forward, the RO will need to ensure that firers remain in 'line abreast' or in a straight line. Having one firer well in front of another increases the likelihood of an incident should there be an accidental or negligent discharge.
- During the UNLOAD process, the RO will need to inspect both the chamber and the magazine/clip.
- RO should be aware of muzzle discipline when firers change position, ie standing to seated. The muzzle must remain pointed down range at the stop butt.
- Some practices involve low firing positions (such as the Hawkins). The RO should be conscious (as should the firer) that the projectiles pathway is not obstructed given that the line of sight is some distance above the axis of trajectory.
- If practices involve the use of barricades or other rests that can be used by the firer, these barricades or rests should be constructed of penetrable materiel such as wood.

The two most important factors governing the advance are as follows:

- Before the practice starts the firers must be clearly briefed that, when assembled at the initial distance before the advance, they must conform, for example, to the rules relating to the loading of the rifle and/or the magazine or the application of the safety catch. The RO must ensure compliance.
- The advance is to be controlled by the CRO and ROs are to move with the firers, control the rate of advance and ensure safe firearm handling. Firers will have been instructed in the brief not to close actions or release safety catches before reaching the forward firing point. Failure to comply will result in immediate suspension and dismissal from the range.



## **Annex 5A - Safe Management of Biathlon Practices**

Biathlon practices involve the use of skiing (or in summer, running, rollerblading etc) to then shoot at metal targets using a 22LR Rimfire Rifle. The following paragraphs highlights some of the rules controlling Biathlon shooting, based in the international rules.

RO should follow these guidelines if controlling a Biathlon practice. RO should also be aware of the need to review RSO to understand other controls required.

### **Biathlon Specific Safety Measures**

At all times when rifles are not being carried on the athlete's back they must be pointed in a safe direction either down range toward the stop butt, or straight up in the air. Rifles are not to be pointed toward the ground in case of any misfire and subsequent ricochet.

Loaded magazines and single shots can only be loaded into the rifle whilst the rifle is pointing toward the stop butt and the skier has ceased moving on the firing point.

Once the range has begun operating it will be declared an 'Open Range' format meaning that all rifles will be assumed loaded and fingers are to remain clear of the trigger until the rifle is pointing down range toward the target/stop butt.

On the order 'CEASE FIRE' or 'STOP STOP STOP' all rifles being used are to be unloaded, ECI inserted and the magazines removed. Where a rifle is carried, it must be placed on the athlete's back and that athlete must step back from the range firing point.

Where the rifle is not carried, whether it is fitted with a harness or not, it shall be placed on the rifle stand after having been checked as unloaded by the Range Officer with the bolt open, ECI inserted and the magazine removed.

During competition, in the event of rifle malfunction, the competitor is to raise their hand to seek assistance of the range staff. 'Time Out' may be allowed depending on the decision of the jury at completion of the race. The time out period is to be noted by the penalty counters. If a spare rifle is available, it may be substituted for the defect one.

All rifles must be cleared of Live Ammunition and ECI inserted prior to leaving the range on all occasions.

Competitors not carrying rifles on their back must open the bolt, remove the magazine and leave the rifle on the mat pointing down range.

***Skiing with a live round in the breech or leaving the rifle on the mat with a live round in the breech will automatically result in disqualification.***

Rifles must be checked clear both prior to the start and after the finish of a race by Start/Finish personnel.

Rifles being removed from the range after the completion of training or competition are to be checked clear by a RO and have an ECI inserted.

Only appointed range officials, athletes and firearms supervisors authorised by the Chief of Range (where the athlete does not hold a firearms licence or permit issued by an Australian State or Territory) are permitted to be on the firing point.

Breech safety flags/ECI are to be used for rifles not currently in use for competition or training.

The attention of athletes is drawn to the following excerpts from Art. 8.5 of the IBU Competition Rules that relate to safety on the range. Note that the penalty for breach of any of these rules is disqualification under IBU Disciplinary Rules Art. 5.6 s.

8.4.2 Use of Magazine. The five rounds required in each bout of shooting may be loaded with the use of a magazine. If rounds are lost from the magazine or fail to fire, a new magazine may not be inserted into the rifle. Such rounds must be loaded individually. However, if a magazine is lost or defective, it may be replaced with another magazine.

## 8.5 SAFETY REGULATIONS

### 8.5.1 General

- Shooting shall be permitted only on the shooting range, during officially authorised times. It is forbidden to make movements with a rifle which might endanger persons, or which may be perceived by others as dangerous.
- The rifle muzzle must be over the forward edge of the shooting ramp (= firing point) from the beginning to the end of the shooting stage. When the range is open for shooting, no one shall be permitted to be forward of this line. At all times, the competitor shall be responsible for their actions.

### 8.5.2 Loading and Unloading

- The rifle may be loaded and unloaded only with the barrel pointing in the direction of the targets or stop butt. To insert a magazine containing bullets into the rifle is also part of the loading procedure. When moving from one shooting lane to another, the competitor must first unload his rifle and place the rifle on his back in the normal carrying position.
- 8.5.2.1 Safety Check on the Range after Shooting. After each shooting bout the rifle must be unloaded – that is, no round may be left in the chamber or in the inserted magazine. However, it is permitted to leave the fired cartridge case in the chamber and the empty magazine in the rifle after the last shot. At the end of training and/or zeroing sessions, the competitor must perform a safety check before leaving the shooting range by opening the bolt and removing the inserted magazine, with the barrel pointed toward the target.

### 8.5.3 Aimed Shots. All shots must be aimed and fired only at the targets.

8.5.4 Removal of Rifle on the Range. A competitor may not remove a strap of his rifle carrying harness from his shoulder before he has reached the firing lane from which he will shoot. He must cross the lane marking line with both feet and lay both ski poles on the ground prior to removing his rifle from the carrying position.

8.5.5 Safety at the Finish. At all IBU competitions there must be one or more official(s) at the end of the finish area who will open the rifle action of every competitor. This check may only be performed when the rifle is pointing upwards. At the same time, the official will inspect the cartridge case ejected from the chamber.

# CHAPTER 6

## How to Improve Your Effectiveness

- Elements of a Competent Official
- Improving Communication
- Dealing with Conflict
- Code of Conduct

### Elements of a Competent Official

**Role of an Official.** The key elements of a competent Range Official are broadly the same for officials of all sports at all levels. But there is no specific technique, skill or knowledge that identifies an effective official. It is the role of every official to find the balance of all three combined with their attitude to want to be a better and more effective official.

There are five key elements of a competent official:

- Make effective (accurate and consistent) decisions;
  - Understand the decision making process of effective communications,
  - Successfully resolve conflict,
  - Be assertive, and
  - Appropriate levels of anxiety and arousal and sound interpersonal skills.
- Plan and organise effectively;
  - Understand the technical, ethical and moral roles,
  - Pre-match preparation,
  - Organise and conduct meetings, and
  - Report writing.
- Self-manage effectively;
  - Time and stress management,
  - Psychological preparation,
  - Personal presentation, and
  - Code of ethics, values and behaviour.
- Apply personal health and safety principles;
  - Legal responsibilities and risk management,
  - Physical and mental fitness,
  - Nutrition, and
  - Basic first aid.
- Apply Technical knowledge.
- Laws and rules of the game (spirit of the game);
  - Positioning and signals,
  - Reporting and penalties,
  - Understand the officiating environment, and
  - Practical officiating.



It is apparent to most that it is not possible in a short course like this to provide adequate teaching of all of the above features. However, you need to decide for yourself what improvements are needed to attain your personal goals of being an effective range official.

### **Key Areas of Officiating**

There are three key areas of officiating:

- **Control/ Organisation.** Officials need basic skills to be able to control/organise a range so as to ensure the spirit of the event is observed by all.

- Be on time ( about 1 hour before the scheduled start).
- Be dressed appropriately - neat and professional.
- Know all the basic rules.
- Emphasise the spirit of sport.
- Thank other officials, the players and coaches.

**Decision Making Behaviours.** Officials need to apply the rules/laws both consistently and accurately for all within the spirit of the sport or event.

- Be enthusiastic.
- Be confident.
- Treat all participants consistently.
- Keep fit and alert to maintain safety.
- Review your performance after each session.

**Communications.** This is fundamental to officiating. It involves people skills in order to develop a positive and interactive social climate and foster the spirit of the sport and event. This skill has already been well covered earlier but to reinforce the main points again.

- Speak in a firm but friendly manner.
- Be prepared to explain your rulings.
- Make clear and decisive calls.
- Admit when you have made an error.
- Use your voice to warn before you penalise.



## Improvement as a Range Official

Officiating Diary. Keeping a diary which focuses on your performance as an official – it is simple and helps you think clearly about what you are doing well and things that could be done better.

Mentoring by speaking to another experienced official, coach or senior competitor about your performance – effective feedback is essential.

Video self-analysis. Make a video of your officiating performance.

## Communication Skills

Why Teach Communication to officials? Communications is a very important skill for Officials to be able to effectively relate to participants to ensure a range is managed well. Communications can be verbal and non-verbal.

Good communicators are at a personal and social advantage on and off the range.

**Effective v Ineffective Communications.** Effective communications is important for two reasons. First, communications is a process by which planning, organising, leading and controlling are accomplished within any organisation. Second, communications is the activity which links organisations together.

Communications also presents the face of the sport and person to the outside world. To become effective communicators, officials need to be skilled in six areas. These are:

- Verbal Communications.
- Active listening/talking.
- Awareness of barriers to effective listening.
- Written communications.
- Self awareness/reflection.
- Strategies and techniques to improve communications.

Good Communication skills are associated with:

- Confidence.
- Personal power.
- Low stress levels.
- More satisfying and successful relationships.
- Skill in relating to others.

- A healthy self-concept.
- Accurate and consistent decisions.

**The Injection Myth.** We are all guilty of succumbing to the Injection Myth in our communications. That is, we assume the intended meaning of our message matches perfectly with the listener's interpreted meaning of our message. This implies that all we need to do is 'inject' our message into our listener and it will be fully understood.

If range officials are to be better communicators and therefore better managers of participants and competitors, then the focus has to be on 'what will the participant (listener) be likely to do with my intended message?'

It is worth noting that 90% of the conflict, both on and off the field of play, occurs because of the tone and how something was said rather than what was actually said.

**Communication Methods.** Interpersonal communications is the process of sending and receiving information from one person to another (or group of people).

One-way communication can be used effectively when giving directions, or when making statements of policy or communicating through newsletters. If communication must be fast and accuracy is easy to achieve, then one-way communications is more economical and more efficient.

Two-way communication with continuous feedback is desirable when trying to gain or to gauge understanding, or when trying to solve a problem. It is the most common and natural form of interpersonal communication.

When accuracy of communication is important, two-way communication is essential. Without feedback from a receiver (listener) the sender has little basis for judging the degree of understanding or accuracy of the communication.

Receivers are also more confident of themselves and their judgement in two-way communications. Being able to ask questions for clarification or to be able to give one's own opinion increases the value brought to the communication.

In most situations an effective official will have created an effective mix of one and two-way communication strategies.

**Barriers to Effective Communications.** Because communications is a very personal skill it has a very complex raft of issues which can act as barriers.

- Filtering information - *Hearing only what you want to hear.*
- Emotions blurring the message - *Responding to body language.*
- No common language being spoken - *use of jargon.*
- Rehearsing what you are going to say - *not responding to questions.*
- Judging - *determining your response before reviewing the evidence.*
- Always "being right" - *not being open to other views.*
- Mental state - *current state of anxiety or stress.*
- Physical environment - *noisy range or quiet score room.*

**Communication Blocking Phrases.** Some communication barriers act as complete road blocks. This type of 'destructive' language can significantly inhibit effective communications.

- Ordering, commanding - "You take this" / "Get me that ...."
- Warning, threatening - "If you do that I'll ....."
- Judging, critical, blaming - "I would have thought you would have known better".
- Name calling, ridiculing, shaming - "You clumsy idiot", "You ought to be ashamed of yourself".
- Expecting too much - "It's so obvious that you should read your rulebook".

Possessing good interpersonal communications skills is one of the great strengths of an effective official

## Techniques and Strategies to Improve Communications

Active listening is more than just hearing – it enables us to put meaning to sounds. Listening involves the ability to receive, attend to, interpret and respond to verbal messages.

Effective listening depends on the style, attitude and tone conveyed by the person sending the message. It is how the listener perceives the purpose of

the communication that has the greatest influence (+ve/-ve) on what is heard, how it is processed and how effective the listener responds.

**Active Listening Behaviours.** Attentive listening builds closeness and trust and sends signals without words. It consists of the following behaviours:

- S face the other person squarely
- O adopt an open posture
- L lean slightly toward the other person
- D at a distance apart of about 1 metre
- E keep good eye contact
- R try to relax

## Five Good Listening Tips

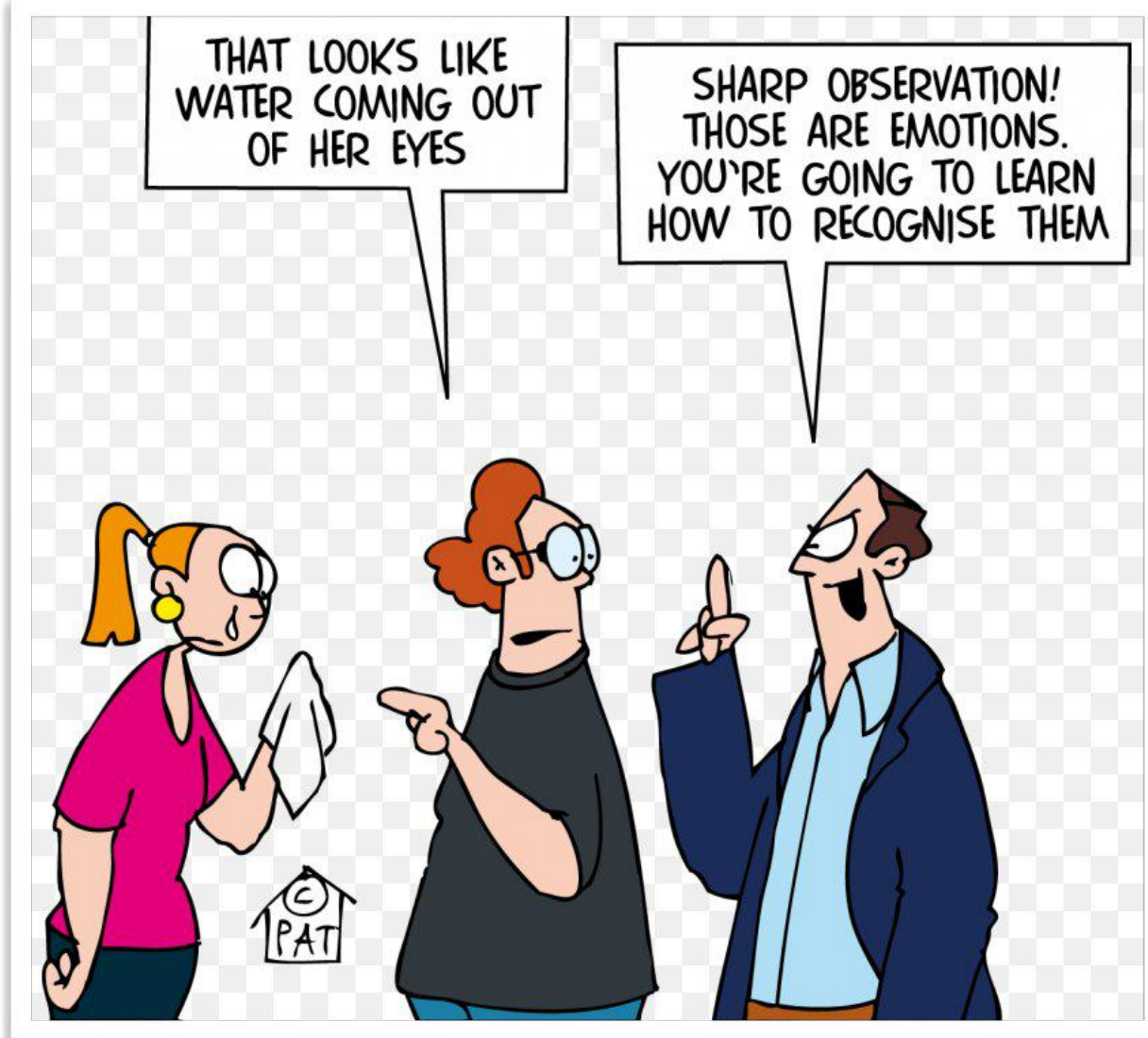
- 1) Listen attentively - all gestures and facial expressions should show acceptance and attention.
- 2) Listen reflectively - repeat what was said by the participant to check the content of the communication was correct.
- 3) Avoid emotional responses - have you ever noticed how listening stops when an exchange gets heated?
- 4) Try bridging - a nod of the head, a throaty noise without words or an occasional "yes" helps the speaker to know you're tuned in.
- 5) Don't interrupt - don't interrupt means don't interrupt!

## Active Talking Techniques

Active Talking techniques balance active listening strategies to ensure the communication is processed successfully and determines how effectively the listener responds. These techniques include:

- 1) Always try to use "I" language. It is important to express your feelings directly and take ownership of what you say.
- 2) Paraphrasing. Putting in your own words what the other person said to check you have heard correctly.
- 3) Summarising. Identifies the main themes by recapping and focusing on what's next.
- 4) Use open questions. Use questions to seek responses – these are important because:
  - They require the respondent to listen.
  - They uncover important information.

- They seek the other person's ideas, feelings, etc.
- They get the speaker thinking about specific issues.



- Closed questions – when, where, who are limiting questions and often only require a single word response

### Effective Laws of Human Communication

1. It is not what our message does to the listener, but what the listener does with our message, that determines our success as communicators.
2. Listeners generally interpret messages in ways which make them feel comfortable and secure – when people's attitudes are attacked head on, they are likely to defend those attitudes and in the process reinforce them.
3. People are more likely to listen to us if we listen to them.

### Improving Communication by Officials

Follow these points to be more effective at communicating:

- Speak in a firm but friendly and polite manner.
- Use two-way communication techniques when appropriate.
- Be prepared to briefly explain your rulings.
- Make clear and decisive calls consistently.
- Be sensitive to the receiver's situation – empathise with shooters.
- Admit when you have made an error.
- Use direct simple language.
- Use your voice to warn before you use a card to penalise.

Not all questions are open. There are three styles of question:

- Open questions – how, what, why lead to a fuller reply and often the catalyst for a fuller discussion.
- Reflective questions – consider, think is asking the listener to respond by reflecting or offering an opinion.

## Dealing with Conflict

The Definition of Conflict:

*"Opposition of opinions or purpose and can cause mental strife".*

Or in a sporting context:

*"Conflict for sports officials can be defined as the fight, collision, struggle or contest between the player or competitor and the official."*



An effective official will be one who can successfully deal with conflict. Firstly, officials should be able to identify the signs and possible causes of conflict both in on and off range situations. Secondly, officials should be able to propose strategies to deal with conflict situations.

**Types of Conflict.** While most conflict involving officials is physical there is also the mental anguish of a perceived conflict. Dealing with both types of conflict, mental and physical, require similar strategies.

Remember 90% of conflict starts not with what was said but the tone in which it was said. So the ideal resolution of any conflict is a consensus which is a win-win outcome.

**Consensus.** Consensus solution is a successful conflict outcome decision that both participants are comfortable with and will support. It may involve compromise to satisfy the needs of both parties.

Advantages of a consensus outcome are:

- Both participants are motivated to carry out the solution.
- There is a good chance of finding a high quality solution.
- Less hostility = more respect.
- Requires less enforcement efforts.
- Gets to the real source of the problem.
- Usually brings about changes in behaviour.

A failure to get a consensus solution usually results in a win-loose outcome. Either the participant loses and feels resentful and has low motivation to comply or the official feels powerless to control the self-centred participant. Neither outcome is good for future dealings between them.

**Causes of Conflict.** The causes of conflict are usually very complex but the contributing elements can be divided into:

- Lack of information - information is not shared between both participants.
- Ineffective Comms - the "injection myth" has failed and the listener has misunderstood the message.
- Frustration - the aggressor is frustrated with outcomes and seeks to find a "scapegoat" for them.
- Pressure/Stress - a person's mental state has become unstable due to pressure or stress.
- Conflicting aims - when participants are trying to achieve conflicting goals using the same resource.
- Provocation - one participant provokes another's aggression using demeaning actions either verbal or non-verbal. Usually the latter.
- Sledging - verbal provocation of one participant by another using demeaning "blocking phrases".



**Signs of Conflict.** There are some typical warning signs of pending conflict:

- Verbal - comments start to become pointed and generally aggressive in nature.
- Non-verbal - looks and physical gestures demonstrating disapproval and preparing to take matters further to correct the disapproval.
- Body language - actions and posture which could be considered provocative to the recipient.
- Positioning - aggressive movements towards another that enters someone's "personal space".

### Consequences of Conflict

Consequences of conflict are broadly categorised into physical, mental and economical.

When firearms are involved, the consequences of a conflict, in an extreme case, could be quite devastating.

At the very least the economic consequence of a conflict is the time used, usually wasted or lost, while the conflict occurs and resolutions are considered by both parties.

The physical consequences of conflict could range from a minor shove to hospitalisation or even death. On a rifle range the latter outcome is a realistic threat in an extreme case. All are deemed in law to be an assault.

The mental consequences generally have an intangible influence on most future dealings between both participants. It impacts on matters of reputation, trust and respect between both parties.

### Strategies for Dealing with Potential Conflict

Avoid the conflict: it is virtually impossible for range officials to avoid conflict when dealing with matters of safety, however they can adopt some prevention strategies to help reduce the amount of conflict they may face during a competition.

Smooth over the situation: by employing the right conflict resolution strategy to a particular situation you can smooth over the conflict and work towards a resolution.

One or both parties compromise: if neither participant to the conflict is prepared to compromise then the conflict cannot be resolved. Resolution strategies should provide common ground to negotiate a compromise.

Confrontation: using firm assertive commands or instructions in confronting heated situations may be more appropriate in resolving this type of conflict.

Address the problem not the emotions: by addressing the emotions it will only inflame the situation, increasing the level of conflict. Focus on the task or goal of finding common ground.

Focus on the person: people are not inanimate objects and should not be treated as such. Be moral and ethical with people.

### Conflict Resolution Strategies

Prevention is better than cure: it is better for officials to identify possible causes of conflict and initiate intelligent dialogue with participants.

Isolate the facts from emotions: only by demonstrating that your decisions are based on facts and the evidence available, can the official be recognised by the competitor as having made a fair and accurate decision.

Task v Relationship: an official's support for a particular team or individual can never impact on the final decision.

Listen More: the official who listens to both the individual's verbal and non-verbal messages tends to gather more evidence, and ultimately achieves more accurate and fairer decisions.

Try to empathise with the person: officials who show empathy for an individual's concerns usually receive reciprocal understanding by the competitor for the official's role in applying the rules.



**"We need to form a conflict-resolution team to settle the dispute over who should be chosen for our conflict-resolution team."**

## CODE OF CONDUCT & ETHICS

As a member of NRAA you must meet the following requirements in regards to your conduct during any activity held by or under the auspices of NRAA.

1. Respect the rights dignity and worth of others.
2. Be fair, considerate and honest in all dealing with others.
3. Be professional in, and accept responsibility for your actions.
4. Make a commitment to providing quality service.
5. Demonstrate a high degree of individual responsibility especially when dealing with persons under 18 years of age, as your words and actions are an example.
6. Be aware of, and maintain an uncompromising adherence to NRAA standards, rules regulations and policies.
7. Operate within the rules of shooting including national and international guidelines which govern Shooting Australia and the NRAA.
8. Understand your responsibility if you breach, or are aware of any breaches of this Code of Conduct & Ethics.
9. Do not use your involvement with NRAA to promote your own beliefs, behaviours or practices where these are inconsistent with those of the NRAA.
10. Avoid unaccompanied and unobserved activities with persons under 18 years of age, wherever possible.
11. Refrain from any form of abuse towards others.
12. Refrain from any form of harassment towards, or discrimination of others.
13. Provide a safe environment for the conduct of the activity.
14. Show concern and caution towards others who may be sick or injured.
15. Be a positive role model.

## Practical Management of Conflict on the Mound

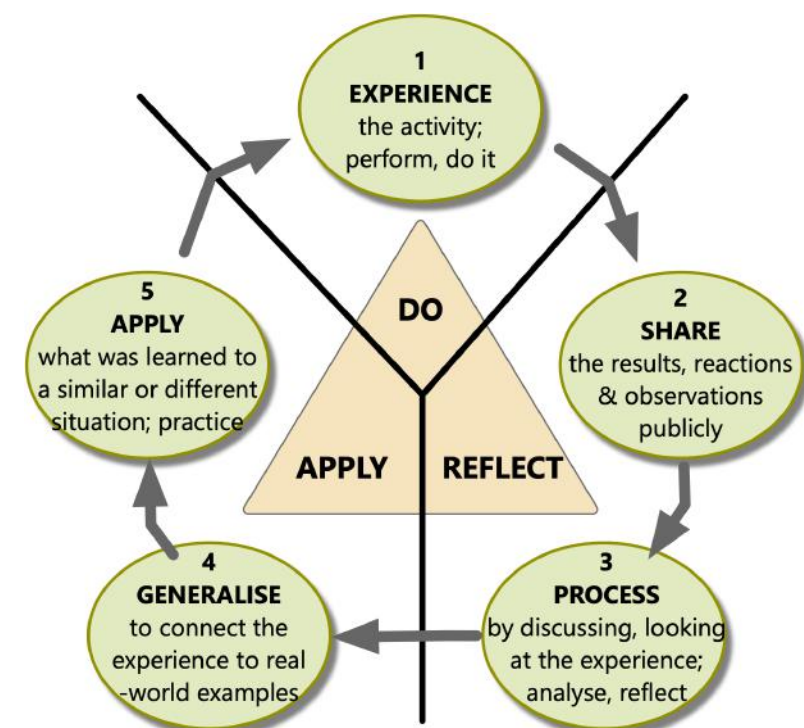
Based on observation, the following paragraphs describe a practical solution to conflict resolution on the FP, as described by Mr Peter Hulett.

For most conflicts on the range the RO is a late arrival. The conflict (say between shooter and scorer) has already escalated to the stage where nobody is listening. Because of this the resolution stage is made much more difficult and the most likely outcome is that one or both of the parties will finish up being dissatisfied with the result.

The short-circuit to this is the written protest to the review committee. This approach takes the pressure off the RO, and provides thinking time for those people who are upset/outraged at what has transpired. Importantly, this approach keeps the match progressing and reduces distraction to other shooters. This is particularly important during a major championship or other type of competition.

RO should be cognisant of that fact that the outcome decided by the review committee may not support your position or indeed the actions you took to resolve the issue. Quite often, a different approach may have been better after deeper analysis and reflection post the event and when emotion has been removed. RO should not be perturbed by this and not see it as a sign of weakness or incompetence; rather it should be noted as a learning experience and filed away for a 'next time'.

Just remember to ensure shooting remains safe. A match is a match and is soon forgotten; a serious injury or death is for life.



## Code of Conduct and Ethics

As part of the registration process to become a NRAA Range Officer accredited through NRAA, you must have read and agreed to comply with the NRAA Code of Conduct Ethics.

### Summary

The NRAA Range Officer's Course has been designed to improve your competency and confidence to be able to play an important role within our sport - a Range Officer at club level. This course is intended to highlight the skills required to confidently fulfil ALL the duties of a Range Officer when asked to do so by any Club or State Association organisers.

It will be important for everyone to apply the strategies provided by this course to:

- Exercise your Duty of Care responsibilities: that has been clearly established as a consequence of your relationship to all participants.
- Apply Risk Management strategies: to evaluate all activities not covered by RSO or an Operational Plan and take action to move high and medium risk activities into the low risk category.
- The difference between Range and Competition Rules: remembering to give precedence to enforcing Range Safety Rules ahead of Competition Rules.
- Understand the RSO: ensure conformance to all processes and procedures contained in a ranged approved Operational Plan or RSO.
- Better understand the officiating role: by applying the personal development strategies to further improve your officiating experiences.

It is important to understand that the task of being a RO can be daunting, especially for the first few times; however, experience, perseverance and determination will see you through. Where you can, seek a mentor to help you learn, especially for those first few times.

Good Luck in your new role as a Range Officer!

