



NATIONAL RIFLE ASSOCIATION  
OF NEW ZEALAND INC.

Seddon Rifle Range, cnr Messines Ave and Alexander Road  
Trentham, Upper Hutt, New Zealand  
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## Range Standing Orders for Seddon Range

### 1 Shooting range/multi-range site (complex) name

Seddon Range

### 2 Names of individual ranges (if applicable)

NA

### 3 RSOs date (date RSOs were authorised)

14 June 2023

### 4 Introduction

**4.1 Description.** Seddon Range is a 1,000yd non-standard Reduced Danger Area Gallery Range within 50 x shooting lanes.

**4.2 Legal Title.** Seddon Range is located at Trentham Upper Hutt, within an area known as the Trentham Rifle Range Reserve. The Trentham Defence Reserve is defined under the Reserve Act 1977, Section 936, Block I, Rimutaka Survey District S.O. 32449. The Trentham Defence Reserve is vested to the Minister of Defence.

**4.3 Land Owner.** The land on which Seddon Range stands Crown Land which is a New Zealand Defence Reserve under control of the Chief of New Zealand Defence Force. Command and control of Seddon Range is vested in the Officer Commanding (OC) Trentham Regional Support Centre (TRSC).

**4.4 NZDF Licence.** NRANZ have been granted a New Zealand Defence Force (NZDF) Licence, dated 22 August 2011 for the use of Seddon Range to conduct target shooting activities.

### 5 Responsibility

**5.1 Shooting Range Operator.** National Rifle Association of New Zealand Inc. (NRANZ) is the Shooting Range Operator (SRO) for civilian shooting activities on Seddon Range.

**5.2 Administration / Maintenance.** The NRANZ committee is responsible for the administration, allocation, and ongoing maintenance of the Seddon Range, and are also responsible for ensuring that all members are familiar with and abide by these RSOs.

### 6 Compliance with Range Standing Orders (RSOs)

**6.1 Compliance.** These RSO have been produced for the use of Seddon Range by the NRANZ and the WRA and its affiliated club. These RSO are not approved for use by any other club. The Seddon Range RSOs are provided to ensure all NRANZ and WRA members are aware of the safety requirements applied to the range when conducting shooting activities or maintenance.

**6.2 Non-Compliance.** If a member, affiliate, or visitor does not comply with the RSO's a Range Officer may issue an immediate caution, warning, or instruction to adhere to RSO's. If the breach continues the Range Officer may immediately suspend live shooting and require the offending party

to leave the range. The incident will be referred to the NRANZ disciplinary committee to review the incident and determine any further penalties. These may include temporary or permanent suspension of membership and/or temporary or permanent exclusion from using the range.

## 7 Range Location

7.1 Messines Avenue, Trentham, Upper Hutt

7.2 **Map Ref:** NZ Topo 50 Series - BP32 Paraparaumu & BQ32 Lower Hutt

**Grid Reference:** (NZTM) x: 1,771,166 Y: 5,442,452

## 8 Approved range users and priority of use

8.1 The approved users of Seddon Range are:

1. New Zealand Defence Force
2. National Rifle Association of New Zealand Inc. (NRANZ)
3. Wellington Rifle Association Inc. (WRA)
4. Karori Rifle Club Inc. (KRC)
5. Petone Rifle Club Inc. (PRC)
6. Trentham Rifle Club Inc. (TRC)

**Note:** The range is not to be used by non-members or non-affiliated clubs or associations without the written authority of the NRANZ.

## 9 Warning flags and danger signs

9.1 **Warning Flags.** Red coloured Warning Flags are to be used to visually advise people in the vicinity that the range is about to be used or is in use for live shooting. Raising of the flags is to be the first task undertaken when using the range.

9.2 **Flag Locations.** Warning flags are located at the following points:

- On the white flag pole located on the grassed area to the northwest of the NRANZ Headquarters building.
- On the pole with a red painted band around it located on the northern side of the range (golf course side) between the 500yd and 600yd mounds.
- On the pole with a red painted band around it located on the southern side of the range by the 100yd mound.

9.3 **Danger Signs.** Range Danger Signs located at the following points:

- On the northern grassed area of the entrance road, behind the 1,000yd mound, adjacent to the NRANZ Headquarters.
- On the northern side (golf course side) fence line between the 900yd and 1,000yd mounds.
- On the northern side of the 600yd toilet block.
- On the south-eastern side of NZDF property (boundary with Corrections).

## 10 Description of the Range, Restrictions, and Conditions of Use

**10.1 Description.** Seddon Range is a Reduced Danger Area imperial 1,000 yard outdoor Gallery Range containing a maximum of 50 x target/shooting lanes that covers an area of 21.92 hectares including the Range Danger Area.

**10.2 Restrictions.** Ammunition from .22in up to 0.5in calibre that complies with the following performance limitations are authorised for use on Seddon Range:

- **Rimfire Rifle.** .22in calibre that does not exceed a muzzle velocity (MV) of 390 m/s (1280 f/s) and does not exceed a muzzle energy (ME) of 196 J (145 ft/lbs).
- **Centrefire Rifle.** .223 – 8mm calibre that does not exceed a muzzle velocity (MV) of 1,000 m/s (3,280 f/s) and does not exceed a muzzle energy (ME) of 4500 J (3,319 ft/lbs).
- **Blackpowder Rifle.** Less than .50in calibre that does not exceed a muzzle velocity (MV) of 427 m/s (1,400 f/s) and does not exceed a muzzle energy (ME) of 2,950 J (2,175 ft/lbs).

**10.3 Conditions of Use.**

- **Shooting Lanes.** Written consent and closure of the golf course is not required when shooting is restricted to the following targets to prevent the range danger area extending over the Trentham Golf Club:
  - Shooting from 100yd, 200yd, 300yd, 300m, 500yd and 600yd mounds, targets numbered 4 to 50 are used.
  - Shooting from 800yd mound, targets numbered 21 to 50 are used.
  - Shooting from 900yd mound, targets numbered 24 to 50 are used.
  - Shooting from 1,000yd mound, targets numbered 26 to 50 are used.
- **Projectiles.** Only the following projectile type are authorised for use:
  - **Smallbore.** Hollow point or solid nose lead alloy that does not exceed 40 grains in weight.
  - **Fullbore.** Ball (full metal jacket), soft point, hollow-point match or polymer tip insert.
  - **Blackpowder.** Cast lead alloy, ball (full metal jacket), soft point, hollow-point match or polymer tip insert projectiles.

**10.3.3 Authorised Rifles.** Only the following rifles type are authorised for use:

- **Smallbore, Fullbore and Blackpowder.** Rifles of this category are to have either optical or vernier calibrated sights fitted. Ex-military rifles (i.e. Lee Enfield, Mauser, Springfield etc) that have original “battle sights” fitted are not authorised for use on the range.

**Note: Night and Low Light Shooting.** Night and low light shooting on Seddon Range is not authorised.

**Note: Unauthorised Ammunition.** The following ammunition is prohibited for use on Seddon Range:

- That exceeds either of the two ammunition performance limitations.
- Sabot/discarding jacket,
- Corroded cartridge cases.

**Note: Hand loaded Ammunition.** Hand loaded or commonly termed “reloaded” ammunition intended for use on the range is to be checked, prior to use, to confirm that its performance does not exceed the above limitations by shooting through a chronograph with the performance being recorded and retained. Any change of hand loaded ammunition will require its performance to be rechecked through the above process.

## 11 Range Safety Roles

The following safety persons are required to be on the range while shooting is in progress. These safety roles may be undertaken by a single, or more than one person:

**11.1 Qualifications.** All NRANZ Range Officers (RO), including the Officer on Duty/Chief Range Officer (OOD/CRO) and Deputy Range Officers (DRO), are appointed by the NRANZ Council. The selection criteria include the candidates shooting experience, job background and previous experience in the position and satisfactory completion of the RO training course and examination.

**11.2 Officer on Duty (OOD).** A OOD is to be appointed for all live shooting activity. The OOD will be the designated Chief Range Officer (CRO) for the range. The OOD is to be present on the shooting mound during live shooting. The OOD is to be identifiable through the wearing of a high visibility vest and/or cap. The vest and/or cap are to be worn at all times while live shooting is being conducted. The OOD is responsible for the overall conduct and safety on the range during live shooting in accordance with Range Standing Orders. The OOD:

- Has complete authority on the range,
- Is responsible for the general discipline and behaviour of all participants and range staff on the range,
- Has the authority to prevent any shooter from participating in any live shooting activity that he or she considers incapable of shooting for any reason.

**11.3 Additional Range Staff.** To ensure minimum acceptable supervision of firers and overall range control, Deputy Range Officers (DRO's) are to be appointed as follows:

- **On a Shooting Mound.** In addition to the OOD, DRO's are to be appointed for each group of 10 targets (i.e. the use of 16 targets requires two DRO's). The DRO's are required to be present on the shooting mound during live shooting.
- **In the Markers Gallery.** To ensure minimum acceptable supervision of markers and overall control within the gallery, Deputy Butts Officers (DBO's) are to be appointed for each group of 10 targets (i.e. the use of 16 targets requires two DBO's).
- **Substitution of Range Staff.** If a OOD, or DRO is required to undertake any other activity (i.e. participates in an event as a firer or is required to leave the range), a suitable substitute must be appointed to assume the OOD or DRO duties. Due to safety requirements a OOD or DRO may not fire on the range while holding the appointment of OOD or DRO.

**11.4 Marker Personnel Safety.** The use of manual targets requires marker personnel to operate each target that is being engaged. To provide the required safety for marker personnel in the gallery during shooting on Seddon Range. See Annex F for marker personnel instructions.

## 12 Range Safety Rules

12.1 Safe and proper use of the range is the responsibility of **all** persons involved.

The OOD is responsible for ensuring the following:

- The range Warning Flag is raised.
- The range is in a safe condition for use prior to the commencement of any shooting.
- That no person(s) are behind the bullet catcher prior shooting.
- That only approved and authorised targets are used.
- All ammunition restrictions are adhered to.
- Hearing and eye protection is available and are being used correctly.
- All persons not involved in an activity are to remain behind any shooting line as directed by the OOD.
- The Safety Rules for a particular discipline being shot are to be complied with in conjunction with these Range Standing Orders (RSO). Where discipline rules contradict these RSO, these RSO are to take precedence.

12.2 **Rifle Safety Precautions.** All persons involved in shooting events while on the range must adhere to the following safety precautions when handling rifles and ammunition:

- Every rifle is to be treated as if it is loaded.
- Any rifle left unattended is to be in a safe condition (unloaded with the bolt removed and an empty chamber indicator inserted).
- The bolt is only to be inserted into the rifle or the empty chamber indicator removed, when the shooter is on the shooting mound.
- The bolt of the rifle is only allowed to be closed when the butt of the rifle is in the shooter's shoulder and is being aimed at the allocated target. The bolt must be opened before the butt of the rifle is removed from the shooter's shoulder.

12.3 **Extreme Wind Limits.** Down range frontal and rear winds pose a risk of target support leg breakage, and this may in turn lead to a risk of injury to personnel within the markers gallery (Butts). See Annex G for details.

12.4 **Prior to Shooting.** The OOD is responsible for the following prior to live shooting occurring:

- **Inspect the Stop Butt.** Inspection of the stop butt projectile impact areas to ensure that tunnelling and any hard objects (stones) greater than 30mm in size are not present. If tunnelling is present or hard objects larger than 30mm in size are discovered, the affected areas are to be refurbished by filling the tunnelling and/or removing the hard objects prior to live shooting occurring.
- Ensuring that all 'Range Warning Flags' are raised to the top of each mast head at their respective locations at least 30 minutes prior to the commencement of live.

- Confirming that the down-range area and the range danger area are clear of persons, animals, or vehicles.
- If unauthorised personnel or vehicles are seen to be within the range danger area, immediate contact is to be made with the Camp Duty Complex over the Safety Net Radio, advising of the intrusion.
- Live shooting is not to commence until the Camp Security staff have removed the intrusion from the range danger area, and notified the OOD that the intrusion has been removed and it is clear to live fire.
- Once all participants have congregated on the range, the OOD is to conduct a safety brief detailing:
  - The course of events for day's activities.
  - Detail shooting lanes that are to be used.
  - Location of the on-range medical kit and First Aider.
  - All range attendees are to obey the commands of the OOD and/or the DRO,
  - Rifles are only to be handled and loaded on command of the OOD or a DRO.
- Establishing on-range communications with the Chief Butts Officer (CBO) in the marker gallery (if manned for the use of manual targets).

**12.4 Safety Net Communications - Commencement of Shooting.** The OOD is to advise the Camp Duty Complex when shooting is about to commence over the safety net radio. See Annex D for details.

**12.5 During Shooting.** The OOD is responsible for controlling the operation of the markers gallery or butts flag during live shooting. If the markers gallery screen/flag is raised, it means that live shooting is not permitted. Rifles present on the shooting mound must not be sighted, aimed, handled or fired while the markers gallery flag is raised.

**12.6 Misfire / Hangfire.** A misfire could result in a delayed detonation or hangfire. If a misfire occurs the rifle's aim is to be maintained on the target for a further 30 seconds before the round is permitted to be ejected. Prior to opening the bolt to eject the round, the rifle is to be rotated so that the loading/ejection port is facing the ground.

**12.7 Elevation Sight Setting Checking Procedure.** The following elevation sight setting checking procedure is to occur during all live shooting events:

- Each firer is to record their normal elevation sight setting from 100yd, 200yd, 300yd, 300m, 500yd, 600yd, 800yd, 900yd and 1000yd. The record is to be in writing and easily referred to by the person checking the sight setting.
- Before taking up a position on the shooting mound, the firer is to present his/her rifle to the scorer or check scorer for verification of the elevation setting.

- The scorer or check scorer is to read the elevation sight setting then refer to the written record.
- If the elevation sight setting is correct the firer is permitted to fire.
- If the sight setting differs by more than 2 minutes of angle (MoA) from the written record, the firer must either change the sight setting to suit or explain to the satisfaction of the scorer or check scorer why it is different and amend the written record for future ranges.
- The firer is to confirm that the sight fitted is the correct one for that particular rifle.

**12.8 Mounds / Butts Communication Failure.** Should radio communications between the shooting mound and butts (i.e. between the OOD and the CBO) fail, the OOD is to:

- Cease live shooting and carry out rifle clearance.
- Contact the CBO in the gallery either via cellphone or by physical means to determine the cause of the communication failure.
- Only when communications have been re-established with the CBO may live shooting continue under the control of the OOD.

**12.9 Leaving the Mound.** Before a shooter may leave a shooting mound, the rifle is to remain pointing down range towards the target and the bolt is to be removed from the rifle. The shooter is to check that the rifle is clear of ammunition. The Register Keeper, Coach, Team Captain, Range Officer or a person nominated by the Team Captain or Range Officer must confirm that the rifle is clear of ammunition by looking through the barrel bore from the breech end and any rifle magazine is empty. An empty chamber indicator is then to be inserted prior to the rifle leaving the shooting mound.

**12.10 Range Closed – No Shooting Permitted.** To provide the appropriate indication to firers and scorers that the range is closed and shooting is not permitted, the OOD is:

- To confirm that all firers have finished shooting,
- Place a large red/orange coloured road cone in the middle of the shooting mound or contact the butts personnel and order the markers gallery screen/flag to be raised and,
- To shout the command “RANGE CLOSED”.

**12.11 Safety Net Communications - Cessation of Shooting.** At the completion of shooting for the day, the OOD is to contact the Camp Duty Complex over the Safety Net Radio and advise that all live shooting has ceased on the range. See Annex D for details.

**12.12 Shooting Positions:** Except as authorised for cross-lane shooting, each shooting position is to be located on the mound so that the shooter is parallel to the range axis, i.e. straight down range at an angle of 90° (1600 mils) to the target line.

- **Prone Position.** Shooting may be conducted from the prone supported, sling supported or rifle supported position or;
- **Seated Position (Shooting Table).** Shooting may be conducted from the seated supported or sling supported position for shooters who are unable to fire from the prone position due to

disability. Shooting tables are to be of stout construction (not flexible) and firmly positioned on a shooting mound.

**12.13 Rapid Shooting:** The use of rifles with magazines in a rapid fire application is prohibited.

**12.14 Zeroing of Rifles.** Where possible, rifles are to have been live fire zeroed at another range. As this is not practicable in all situations, it is permissible to fire bore-sighted rifles from the 100 yd mound for smallbore rifles and from the 300 yd or 500 yd mound for fullbore rifles. The fall of shot is to be observed from the shooting position and markers within the gallery to assist with the fall of shot location. If after three shots the fall of shot is not within the appropriate cone of fire, the bore-sighted rifle is to be removed from the shooting mound and zeroed at another shooting range before being used on Seddon Range.

## 13 New ammunition use

### 13.1 NA

## 14 Targets

**14.1 Authorised Targets.** Only penetrable targets mounted within the permanent target carriers in the marker's gallery, are authorised for use on Seddon Range. Targets are to be constructed so the frame is made from the smallest size wood practical, and projectiles can easily penetrate the target face backing. The target area within the frame should be of the smallest practical size, consistent with competition scoring requirements, to reduce the effects of wind on the structure. No stainless-steel fixtures are to be used on any part of the frame or target as these may increase the risk of injury to markers within the gallery.

**14.2 Target placement.** Targets may only be displayed using the Loughnan cantilever design target frames located in the marker's gallery.

**14.3 Cross-lane Shooting (Wind Flag Line).** Cross-lane shooting is permitted on Seddon Range under the following conditions:

**14.3.1 500yd and 600yd Shooting Mounds.** At the 500yd and 600yd shooting mounds, firers allocated lanes next to a wind flag line may be permitted to fire cross-lane up to a maximum of one target. This results in the person shooting from the normal shooting position number 19 engaging target number 20 and the person shooting from target number 20 engaging target number 19. The following table shows the permitted cross-lane situations occurring during live shooting activities.

Target Number	20	19	22	21	30	29	32	31
Normal Shooting Position	19	20	21	22	29	30	31	32

**14.3.2 800yd, 900yd and 1,000yd Shooting Mounds.** At the 800yd, 900yd and 1,000yd shooting mounds, firers allocated shooting lanes next to a wind flag line may be permitted to fire cross-lane up to a maximum of two targets. This results in the person shooting from the normal shooting position number 18 engaging target number 20 and the person shooting from target number 20 engaging target number 18. The following table shows the permitted cross-lane situations occurring during live shooting activities.



Target Number	20	18	23	21	30	28	33	31
Normal Shooting Position	18	20	21	23	28	30	31	33

**14.3 Target Heights.** To ensure ricochet inducing surfaces are predictable and where possible kept at a minimum, the cantilever target mechanism automatic back-catches are to be operational and correctly used during all live shooting activities. Targets are to be displayed so that the target centres are at 1.27m above the top of the mantlet during shooting.

**14.4 Target support leg testing.** Target legs are to be regularly tested to ensure structural integrity. This is especially required when manual marking is in use.

*The procedure for approval and use of new targets*

14.4NA

## 15 Steel targets

15.1 Steel targets are not permitted for use on Seddon Range

## 16 Moving targets

16.1 Moving targets are not permitted on Seddon Range

## 17 Minimum safe engagement distances

17.1 The minimum safe engagement distances are:

- **Smallbore (Rimfire) Rifle.** The minimum authorised shooting distance for smallbore rifle is from the 100yd mound only.
- **Fullbore (Centrefire) Rifle.** To maintain the extreme end limit of the range danger area on approved property (NZDF and the Southern Hills Reserve), the minimum authorised shooting distance for fullbore and blackpowder rifle is from the 300yd mound only.

## 18 Eye and hearing protection

**18.1 Hearing Protection.** The OOD is responsible for ensuring all range staff, shooters, spectators, butt's officers and markers are wearing the appropriate hearing protection when engaging or observing live shooting events on Seddon Range.

- **Hearing Protection Class.** Class 5 earmuffs and/or earplugs are to be worn by all persons within 20m of the shooting mound when live shooting is in progress.
- **Safety Distance When Not Wearing Hearing Protection.** Hearing protection is not required to be worn if persons are beyond 20m of any shooting mound that is in use at the time.

## 19 Medical and emergency

**19.1 First Aider.** A qualified first aider is to be present on the range for the duration of live shooting activities.

**19.2 First Aid Kit.** First Aid kits are to be available on the shooting mound and within the markers gallery (if manned) during all live shooting activities. The location of the First Aid kit is to be made known to all present on the range in the pre-shooting safety brief.

**19.3 Contact Emergency Services by:**

- **On-Range Mobile.** Dial 111 and request an ambulance, fire or police as necessary.
  - Advise of the nature of the emergency,
  - Provide directions to the location of the range, and
  - Advise that a person will be waiting to guide the emergency services on to the range. The OOD is to task a participant to wait by the roadside of Messines Avenue and the range entrance road by the NRANZ HQ building to provide directions.
- **Safety Net Radio.** Contact the Camp Duty Complex over the Safety Net radio, detailing the situation and what emergency services have been called.

## **20 Accident/Incident Procedure**

**20.1** In the event of medical, fire or intrusion emergencies occurring on the range, Live shooting is to be immediately suspended by the OOD by shouting the command: **“CEASE FIRE, OPEN BOLTS, CLEAR RIFLES and INSERT EMPTY CHAMBER INDICATORS**

**20.2** All rifles that were in use at the time are to maintain muzzles pointing down range towards the target area, have the bolts removed, empty chamber indicators inserted and then laid on the shooting mound.

**20.3** Shooters are not to handle any rifles until the situation is cleared and instruction to resume shooting is given by the OOD.

**20.4** In the event of a rifle or ammunition accident, administer first aid and follow the actions detailed above in Section 19.

**20.5** The rifle is to be unloaded by a range official and declared safe through visual inspection. If the rifle cannot be unloaded, it is to be set aside with the muzzle pointing down range towards the stop butt/target area). A range official is to guard the rifle to prevent it from being touched by anyone in the range.

**20.6** Ammunition including fragments if available should be collected. Taking images is another method to record details.

**20.7** The OOD is to obtain witness statements from those involved as soon as possible for reporting to the New Zealand Police and NZDF and for inclusion in the health and safety incident register and report.

## 21 Fire precautions and procedures

**21.1** In the event of a fire emergency, the OOD is to order live shooting to be stopped and rifles cleared.

**21.2** The OOD is to contact “Fire” Emergency Services by dialling 111.

**21.3** The OOD is then to contact the Duty Complex via the Safety Net Radio and advise of the fire and that emergency services are responding.

**21.4** If the emergency requires all range personnel to evacuate the range, live shooting is to be stopped and all rifles cleared. The OOD is to initiate the evacuation by shouting “EVACUATE THE RANGE” and command all range and marker personnel to exit the range and assemble at the muster area in the shooting village carpark.

**21.5** The OOD is responsible to account for all range and marker personnel, including spectators that were on the range at the time of the evacuation.

**21.6** If a person is unaccounted for, and only if it is safe to do so, the OOD, with another person and with radio or telephone communication, are to go back to the range and conduct a search to locate the unaccounted person.

## 22 Range Clearance

**22.1 Range Refurbishment.** At the completion of live shooting, the range is to be refurbished to its original condition by conducting the following:

- Remove all brass (fired cases),
- Remove all rubbish.
- All targets used are placed in the gallery target shed.
- Remove all range in use and wind flags.
- Refurbish all projectile impact areas within the stop butt that were used. A **Face Angle of 34°** (600 mils) is the recommended angle for the front face or projectile impact face of the bullet catcher to reduce ricochet. From projectile impact and natural settlement, this angle will reduce, which must never fall below 30° (530 mils) as this may cause ricochet to leave the range danger area. To minimise lead contamination when refurbishing the stop butt impact areas, personal protective equipment is to be worn.
- Provide and submit a range clearance certificate. See Annex I for details.

## 23 Unauthorised Access and/or Use of the Range

**23.1 Intrusions.** With the range in use for live shooting, it is the responsibility of all personnel on the range that if persons, animals, vehicles or aircraft are seen to enter or about to enter the range or its danger area that requires live shooting to be suspended, they are to shout “**STOP**”. The OOD is then to command all firers to “**CEASE FIRE, OPEN BOLTS, CLEAR RIFLES and INSERT EMPTY**”

**CHAMBER INDICATORS**". Only when the intrusion has been cleared may live shooting resume under command of the OOD.

**23.2** To report low flying aircraft the Civil Aviation Authority is to be contacted on 05 0847 2338. This number is manned Monday to Friday and operates via voicemail during weekends and public holidays. Additionally, an email can be forwarded to: [isi@caa.govt.nz](mailto:isi@caa.govt.nz).

**Note: Reporting Intrusions.** Once live shooting has been suspended and all rifles cleared, immediately report the intrusion to the Camp Duty Complex over the Safety Net Radio with as much detail of the intrusion as possible. For vehicles describe the colour, make and registration number if visible. For aircraft describe colour and fuselage numbers, whether helicopter or fixed wing, if fixed wing, describe the wing position

## 24 Cone(s) of Fire (CoF)

**24.1 Cone of Fire.** The Cones of Fire (CoF) table below was developed by NRANZ in consultation with Weapon & Range Safety Branch NZDF. These CoF are the only authorised CoF approved for use on Seddon Range. The CoF consists of the core distribution, unintentional aiming error, variable weather conditions, wind estimation error and wrong target error.

Serial	Distance (yd)	Total CoF (mils)		Total CoF (metres)	
		Elevation	Azimuth	Elevation	Azimuth
(a)	(b)	(c)	(d)	(e)	(f)
<b>Smallbore (rimfire) Rifle Cone of Fire</b>					
1.	100	+ 3 - 6.25	+/- 79.80	+ 0.27m - 0.57m	+/- 7.30m
2.	200	+ 3 - 6.05	+/- 43.38	+ 0.55m - 1.10m	+/- 7.93m
<b>Fullbore (centrefire) Rifle Cone of Cone</b>					
3.	300	+ 3 - 5.95	+/- 31.25	+ 0.82m - 1.63m	+/- 8.57m
4.	500	+ 3 - 3.76	+/- 22.75	+ 1.37m - 1.68m	+/- 10.40m
5.	600	+ 3 - 3.56	+/- 21.62	+ 1.65m - 1.95m	+/- 11.86m
6.	800	+ 3 - 3.42	+/- 25.76	+ 2.19m - 2.50m	+/- 18.84m
7.	900	+ 3 - 3.37	+/- 26.12	+ 2.47m - 2.77m	+/- 21.49m
8.	1000	+ 3 - 3.33	+/- 26.81	+ 2.74m - 3.04m	+/- 24.51m

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**Note:**

2 x target wrong target engagement factor is applied for short ranges (100yd-600yd), and  
3 x target wrong target engagement factor is applied for long ranges (800yd-1,000yd).

## 25 Inability of the shooter to achieve Cone of Fire

**25.1** If for any reason any shooter personally notifies the OOD, or is identified as having fired a shot outside the cone of fire, the following procedure is to occur:

- The firer is to immediately stop shooting or be stopped from shooting until an observer is present behind the firer.
- The firer's next shot is to be observed and if it falls within the cone of fire the firer is to be permitted to continue shooting.
- If the next shot does not fall within the cone of fire, the firer is to be provided a competent coach with the intention of bringing the spread of shot to within the cone of fire in the next three shots.
- Firers who are unable to achieve the cone of fire within the next three shots are to be prevented from further shooting. Firers prevented from shooting in this way may resume shooting following identification and rectification of a rifle or ammunition fault. If the rifle and ammunition are found to be satisfactory, the firer is not to recommence shooting until after suitable non-live shooting training with the rifle has occurred.
- The event is to be recorded in a logbook along with the location of the shot or shots outside the cone of fire if possible.

## 26 Unlicensed or inexperienced shooters

**26.1 Instruction for novices.** Novices are to be supervised and coached by an experienced rifle coach on the shooting mound. Novices may only engage targets from the 300yd and 500yd shooting mounds using a supported rifle. Once the novice is capable of consistently achieving the 300yd or 500yd cone of fire and has demonstrated an understanding of range operation procedures, the novice may continue shooting unsupervised on the shooting point.

**26.2 Waiting Shooters, Spectators, Children and Dogs.** The OOD or appointed DRO is responsible for ensuring that all shooters waiting to participate in live shooting activity and all spectators observing within 20m of the shooting mound are wearing the appropriate hearing protection. Waiting shooters and spectators, wearing the appropriate hearing protection, may move forward to not less than 2m behind a shooter on the mound. Waiting shooters and spectators that are not wearing the appropriate hearing protection are not permitted to move closer than 20m to the shooting mound.

## 27 Test firing

27.1 Test firing may only be carried out with the permission of the NRANZ Committee in consultation and agreement with NZDF.

## 28 Air danger height (ADH)

**28.1 Designated Airspace.** A permanent Military Operating Area (MOA), which operates 24 hours per day, has been established over the Trentham Rifle Range Reserve by the Civil Aviation Authority. The airspace designation is NZM602, which extends from the ground surface to an upper limit of 1500 feet. NZM602 is activated by CAA Notification to Airmen (NOTAM) and Aeronautical Information Publication (AIP) supplements.

**28.2 Air Danger Height Dispensation.** (Reference: Minutes of the meeting held between the NRANZ and NZDF dated 21 February 2003). The current range danger area length has been reduced by the application of Comparison of Residual Energy Dispensation and Air Danger Height Dispensation. This was authorised by Weapon and Range Safety Branch NZDF to maintain the full extension of the range danger area within NZDF property and the Southern Hills Reserve of the Upper Hutt City Council. Attached at Annex B is a contoured image of Seddon Range with the Range Danger Area applied.

## 29 Range maintenance plan

**29.1 Range Safety Maintenance Schedule.** To ensure that Seddon Range remains compliant and fit for purpose, range safety maintenance is to be planned and conducted. The information and specifications provided in the range safety maintenance schedule are to be confirmed through regular monitoring at the established frequencies. See Annex J for details

## 30 Children (minors)

**30.1** All children present on the range during live shooting activities are to be always supervised by their parent(s) or guardian(s).

## 31 Health and hygiene

**31.1 Environmental Health Hazard – Lead.** Inhalation and ingestion of lead can be hazardous to one's health. Lead dust and particles are produced when projectiles impact the stop butt. As maintenance of the stop butt will expose members to lead dust and particles, personal protection equipment should be worn.

**31.2 Personal Protection Equipment.** During maintenance of the stop butt, members are to be encouraged to wear a dust mask (that covers both nose and mouth), gloves and overalls.

- Members are to be trained in the use of personal protective equipment.
- Gloves are to be worn when picking up rubbish.
- Boots, overalls or outer clothing are removed and bagged before leaving the range to prevent cross contamination to vehicles, clubrooms and homes.

- Overalls and outer clothing should be laundered weekly, and boots cleaned regularly.

**31.3** To assist in the minimisation of health issues developing in participants, the following precautions should be applied:

- Participants and spectators should wash or sanitise their hands prior to eating, drinking, or smoking.
- Smoking is not permitted in the marker's gallery or on the shooting mound.
- All participants are to be advised of the additional health risk of being exposed to lead hazard when working around the impact areas of the stop butt. If they determine the risk is unacceptably high, they should be excused from this task.

**31.4 Hygiene.** It is important that high standards of hygiene are observed when conducting activities on the range.

- **Toilets.** On-range toilets are provided in the gallery target shed and behind the 300m and 600yd mounds on the northern side of the range.
- **Hand Washing.** As there is potential for exposure to lead contamination members should take extra care to wash hands. Washing facilities are located at each toilet.

## 32 Domestic animals

32.1 Dogs that are present on the range during live shooting activities are to be kept under strict control by their owner or the person responsible. Dogs are to be leashed and not left to roam freely and must be kept away from the active shooting line.

## 33 Additional headings as Annexes

33.1 **Range Layout and Location.** See Annex A.

33.2 **Range Danger Area.** See Annex B.

33.3 **Range Danger Area Control.** See Annex C.

33.4 **Range Bookings / Access / Limitations / Safety Net Radio / NZDF Emergency Demolitions.** See Annex D.

33.3 **Range Key Uplift / Return.** See Annex E.

33.5 **Markers Gallery Operation.** See Annex F.

33.6 **Extreme Winds.** See Annex G.

33.7 **Ammunition Checking.** See Annex H.

33.8 **Range Clearance Certificate.** See Annex I.

33.9 **Range Safety Maintenance Schedule.** See Annex J.

## 34 Amendment to RSOs

34.1 Any proposed amendments to these Range Standing Order's (RSO's) requires the following process:

34.1.1 The NRANZ Committee approves the amendment, then

34.1.2 Consultation with New Zealand Defence Force (NZDF) through the Officer Commanding Headquarters Trentham Regional Support Centre (OC HQTRSC).

34.1.3 The agreed amendments will be incorporated in a revised RSO's which will be signed by NZDF and NRANZ signatories at section 35 to these orders.

**NOTE:** Undertaking amendments to RSO's can only be conducted on the range after both NZDF and NRANZ have signed the Authorisation of RSO section.

34.1.4 Signed RSOs will be forwarded to Clubs & Ranges for verification and Authorisation and issuance of new Range Certificates.


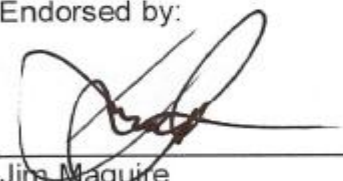
34.1.5 If there is significant change in conditions outside of the original certification, Police may review and issue an Improvement Notice which may require a renewal of certification depending on the change.

34.1.6 Orders once "reviewed and approved" by Clubs & Ranges the updated RSO's shall be displayed on the Club Notice board and at the range, and forwarded to all those named on the distribution list.

## 35 Authorisation of RSOs

**35.1 Consultation and Agreement.** The NRANZ Seddon Range RSO have been developed in consultation and agreement with NZDF for use as the controlling document when the NRANZ and the WRA are conducting shooting activities on Seddon Range.

Endorsed by:

  
\_\_\_\_\_  
Jim Maguire  
Major  
Officer Commanding, Trentham Regional Support Centre.  
New Zealand Defence Force

29 May 2025

Following consultation on amendments to the NRANZ Seddon Range RSO, this version of the NRANZ RSO is approved for safe use by the NRANZ Chairperson. These orders are duly submitted to Police for authorisation and reissuance of range certificates as necessary.

The NRANZ Seddon Range RSOs are authorized by the NRANZ Committee.

Approved by:



\_\_\_\_\_  
Daryl May  
Chairperson, National Rifle Association of New Zealand.  
27 May 2025



## 36 Distribution list

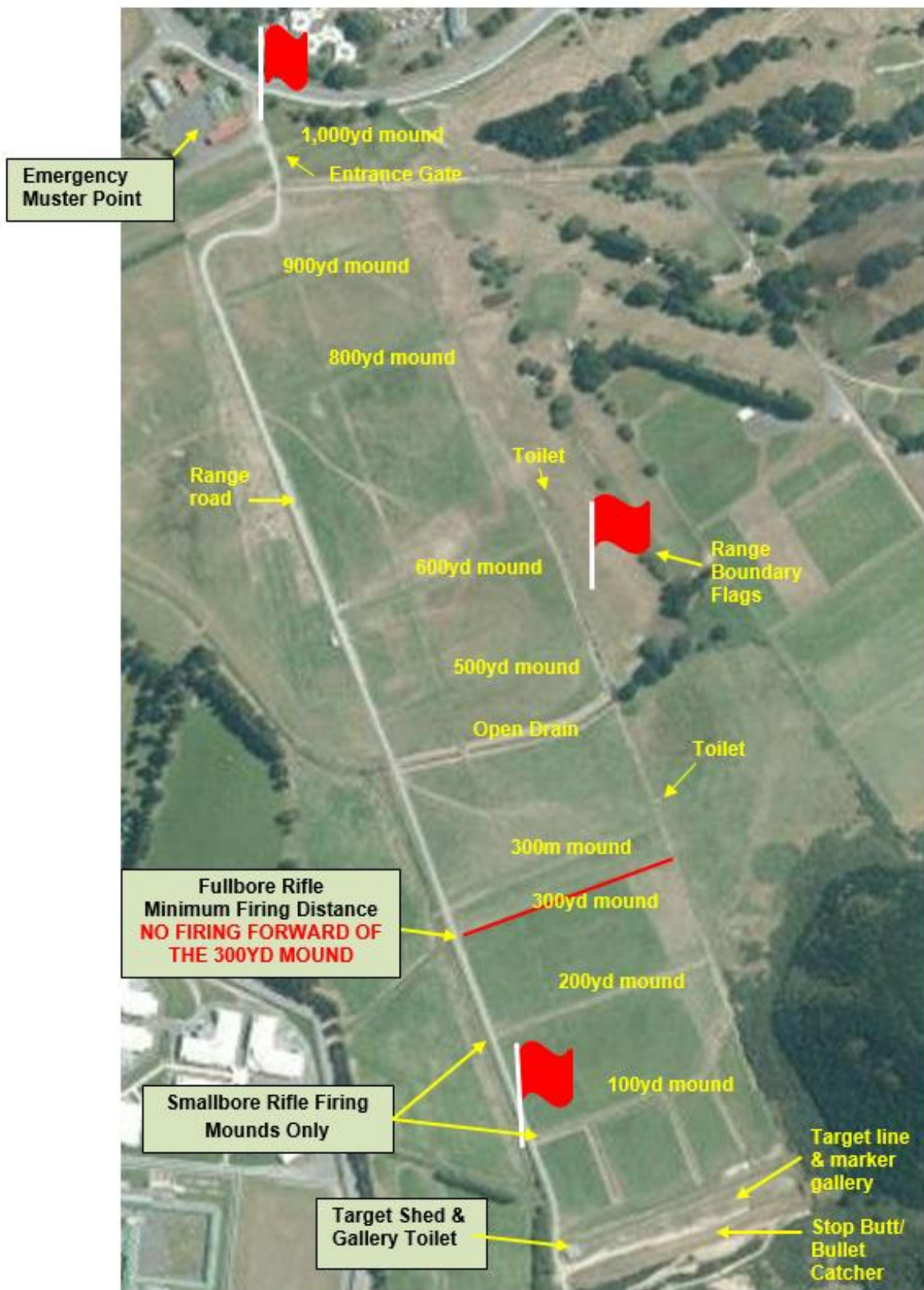
*List all approved range users and associated organisations*

**36.1** These RSO's are to be distributed to:

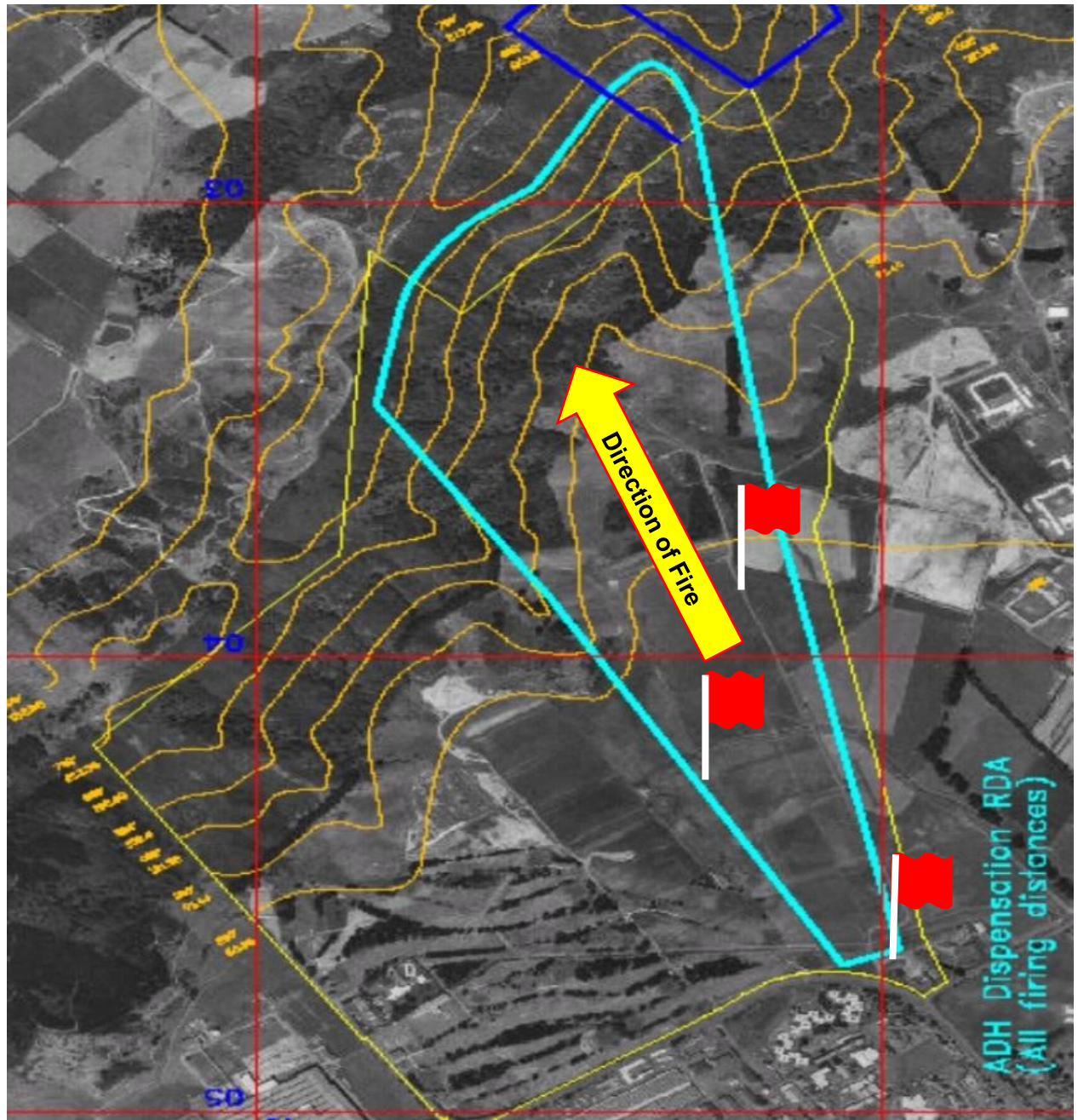
- NZDF
- National Rifle Association of NZ Inc
- Wellington Rifle Association Inc
- Karori Rifle Club Inc
- Petone Rifle Club Inc
- Trentham Rifle Club Inc

## 37 Annexes *(if required to supplement the main body)*

### A. Range layout and location



**B. Range Danger Area (with warning flag location and direction of fire)**





### C. Danger Area Control

The range danger area for fullbore shooting events extends over part of the Trentham Golf Club and non-NZDF properties.

1. In accordance with the Trentham Golf Club licence issued by NZDF, NRANZ may use areas the golf course as part of the range danger area provided the following conditions are met:

- NRANZ are to provide notice to NZDF Range Control Trentham Regional Support Centre of the affected areas of the golf course not less than 28 days prior to the intended use, and
- That part of the Trentham Golf Club that will be within the range danger area will be roped off and closed for the duration of the event.

2. Seddon Range danger area extends over the eastern hill feature and on to the Upper Hutt City Council Southern Hills Ridgeline Reserve. NRANZ holds a lease from UHCC to use that part of the reserve. NRANZ is responsible for the erection and maintenance of signs on the property boundary to warn the public of the associated danger.

### D. Range Bookings / Access / Shared Use / Safety Net Radio / NZDF Emergency Demolitions.

**Range Bookings.** Access to ranges and adjacent areas are required to be booked prior to access through the NRANZ office, who will then make the appropriate booking with NZDF.

**Range Access.** NZDF permission is always required prior to entering the range to maintain the required security of the Trentham Defence Area and provide a safe environment for NRANZ and NZDF personnel or contractors who may be operating within or in an adjacent area. NRANZ will be notified if NZDF personnel or NZDF employed contractors are operating within the range or its danger area or on an adjacent area to the range.

**Shared Use.** At times Seddon Range may be shared with the Wellington Model Aero Club (WMAC) who also hold an NZDF Licence to use range for flying purposes. Shared use is to be coordinated by each club president or chairperson. WMAC may only operate behind the 500yd mound when the NRANZ are shooting from 300 yd/m only. If the NRANZ require to shoot from further distances, WMAC are to cease activities and move off the range.

**Safety Net Radio.** Hand held safety net radios are issued to all users when uplifting range keys when conducting shooting within the Trentham Defence Area. The Camp Duty Complex personnel are to establish that the radio is functioning and is set at the correct channel prior to issue.

- **Responsibility and Use.** The use and location of the safety net radio is the responsibility of the Officer on Duty (OOD) which is to be kept on the person so as to be heard for quick response if called. If the OOD is required to undertake another role or is to leave the range, the radio is to be passed over to another Range Officer (RO). Operation of the safety net radio is as follows:
- **Callsigns.** The below callsigns are to be used:

- “Seddon Range to Duty Complex” when contacting the Duty Complex.
- “Duty Complex to Seddon Range” when being contacted by the Duty Complex.
- **Commencement of Live Shooting.** The OOD is required to contact and advise the Camp Duty Complex when live shooting is about to commence.
- **Cessation of Live Shooting.** The OOD is required to contact and advise the Camp Duty Complex when live shooting has ceased.
- **Accidents/Emergencies and Intrusions.** The OOD is required to contact and advise the Camp Duty Complex of accidents, emergencies and intrusions.
- **Radio Checks.** The Camp Duty Complex may conduct random radio checks to ensure communications are being maintained.

**NZDF Emergency Demolition Access.** NZDF may use the Demolition Range (located in an easterly direction behind the Seddon Range bullet catcher) for the purpose of disposing of improvised devices, obsolete munitions, or unstable materials. This action is commonly referred to as “Emergency Demolitions”, and may occur at any time. In such circumstances, any user on Seddon Range at the time will be advised of the situation and will be required to cease activities and leave the range as quickly as possible to permit the emergency demolition to proceed. Once the disposal has been completed and the “all clear” has been provided by the NZDF Demolition team, the original user may return to Seddon Range and resume activities.

## E. Range Key Uplift / Return

Seddon Range keys are issued from the Duty Complex located at the entrance to Trentham Camp, on the western side of the double barrier arms. The range key is issued in a red coloured metal ammunition container. Additionally, one Safety Net Radio will be issued. To uplift the range key from the Camp Duty Complex, the following is required:

1. **NRANZ, WRA and Affiliated Club Range Officers.** Through the appropriate booking, NRANZ, WRA and its affiliated club Range Officers requiring access to Seddon Range are to provide and show their club membership cards to Duty Complex personnel.

2. **Key Register.** The Range Officer is required to complete the relevant sections of the Trentham Military Camp Key Register in clear handwriting when uplifting the range key. The table below provides an example of the required detail to be completed in each column of the key register. Incomplete sections or ineligible writing may result in refusal of being issued the range key.

Trentham Military Camp Key Register									
Key	Time Out	Unit	Rank/ Title	Name	ID Card No	Signature	Date In	Time In	Return By
Seddon	Time of the key uplift.	NRAo r WRA	Mr	Surname	Photo ID No or Membership Card No.	Signature of the person uplifting the key.	Date of the key return.	Time of the key return.	Initials and surname of the person returning the key.

3. **Issuing Key.** When the range keys have been issued, the Range Officer is required to enter their name in the “Seddon / Dems” section of the Range in Use Board (white board) located in the Duty

Complex. The Range Officer's mobile phone number may also be entered, however it is not mandatory. This board provides quick reference to the Security and Orderly Staff as to who is on the range.

**4. Returning Range Key.** When returning the range keys, complete the column as originally begun in the Key Register and erase the entry made on the Range in Use Board (white board) inside the Duty Complex.

## **F. Markers Gallery Operation**

**Markers Gallery (Butts) Screen/Flag.** A red coloured screen attached to a wooden frame inserted into a target frame within the gallery is raised up and down in the same manner as a flag.

1. When the red gallery screen/flag is raised, the range is "closed", shooting is prohibited. If the markers gallery is not manned a large red or orange coloured road cone is to be placed on the shooting mound to indicate the range is closed.

**Range Open When Using Manual Targets.** When the markers gallery is manned to operate manual targets and the CRO has confirmed with the CBO that all markers are under cover of the gallery, the gallery screen/flag may be lowered, indicating the range is "open" for shooting. The gallery screen/flag is to stay lowered until commanded by the CRO to do otherwise.

**Range Open When Using Electronic Target Systems (ETS).** As the gallery will not be manned during the use of ETS, to provide the appropriate indication to firers and scorers that the range is open for live shooting, the CRO is to remove the large red or orange coloured road cone from the shooting mound that is to be used and shout the command "RANGE IS OPEN".

### **Marker Personnel Safety**

1. The red gallery screen/flag is to be raised and kept raised until all markers are within the protection of the gallery.
2. Once confirmed with the Chief Butts Officer (CBO) that all markers are under the protection of the gallery, the gallery screen/flag can then be lowered only by command of the OOD.
3. No one is to leave the gallery until the cessation of shooting has been given by the OOD.
4. When shooting has ceased, the OOD may give the command to raise the gallery screen/flag.
5. In an emergency the gallery screen/flag may be raised without permission from the OOD to close the range.
6. All markers are to follow the instructions given by the Chief Butts Officer (CBO) or if more than 10 targets are in use at any one time, markers within a group of 10 targets are to follow the instruction of the Deputy Butts Officer (DBO).
7. All personnel in the butts are to always remain on the gallery side of the trench during live shooting and when the gallery screen/flag is lowered.

8. Under no circumstances are markers to use port-a-loos provided while live shooting is in progress. Provisions for markers to use these toilets will be made during planned cease fires throughout the day's activity. Toilets in the target shed can be accessed during live shooting.

9. **While operating within the gallery**, all markers are to wear:

- Fully enclosed sturdy footwear always.
- Safety glasses or prescription glasses always.
- Markers and range staff within the gallery will wear a minimum of class 5 hearing protection when shooting is in progress.

10. **While operating targets**, all markers are to be constantly aware of:

- Maintaining their feet away from the bottom target frame apron when lowering a target.
- Ensure the target frame back latches are operating and being always used to ensure targets are presented at the correct height.

### **G. Extreme Winds Procedure**

Excessive cross-range winds may become difficult for firers to judge and could result in errors in sight setting allowance causing fired projectiles to drift beyond the authorised and safe cone of fire. Wind speed (such as gusting) and direction may also change with little notice and this situation adds a dynamic to managing safety on the range. To support considered responsible decision making by the OOD, all live shooting activities are to cease in the following instances:

**Immediate Cease Fire.** If wind from any direction exceeds 60 km/h the OOD is to order a cease-fire. The OOD is then to assess the wind direction, speed, and other factors (in consultation with range staff and utilising weather monitoring equipment) to determine if the wind speed is a safety issue. Shooting is not to recommence until the OOD is satisfied that it is safe to do so.

**Down-Range Wind.** Should the OOD and/or the CBO have concerns with imminent target breakage due to excessive wind, the OOD or CBO is to immediately order a cease-fire and a postponement until excessive winds abate. Shooting is not to recommence until the OOD is satisfied that it is safe to do so.

**Cross-Range Wind.** Excessive cross-range wind strength is to be determined on the basis of the required rifle sight setting to obtain hits on an allocated target. If more than 20 minutes of angle needs to be applied to rifle sight settings, then the OOD is to order a cease-fire. Once shooting is halted, the OOD is to provide a time at which they will review recommencement of live shooting. At this time the OOD will decide whether to schedule a further review, cancel shooting or recommence shooting.

### **H. Ammunition Checking**

The OOD or another range official who has been delegated by the OOD is authorised to check the ammunition used by firers to confirm it does not exceed the authorised ammunition performance specifications.

1. At any time, any firer's ammunition may be visually checked by an ammunition checking officer to ensure that only approved projectiles are being used.
2. Every shooter is to have a written description of the load they are using. This is to include the case manufacturer and range of case weights, type of powder and weight of charge, type of primer, type and weight of projectile, overall cartridge weight range. This information is to be provided on request.
3. On request of an ammunition checking officer, shooters are to provide two sample rounds for checking against the written loading information. In normal circumstances these checks are to occur randomly after the shooter has finished shooting. This check shall also occur whenever there is a suspicion that the rifle or ammunition is not performing within the CoF or "hot" loads are being used.
4. If at any time an ammunition checking officer has any concern that the ammunition is not performing within the CoF, or that the ammunition is unsafe, that ammunition is not to be fired. Alternative ammunition will need to be obtained and checked before the shooter is permitted to continue shooting.

### I. Range Clearance for NRANZ / WRA Use

Range Clearance Certificates are to be submitted within 48 hours to Range Control TRSC. For ease of return, the completed certificate can be placed within the range key box when returning the keys to the Camp Duty Complex.

Description of Action Carried Out During Shooting:	Yes	No
	(Please tick)	
1. Did any intrusions occur into the range danger area or on the range itself?	<input type="radio"/>	<input type="radio"/>
a. If "yes" was the intrusion reported to the Camp Duty Complex?	<input type="radio"/>	<input type="radio"/>
2. Were winds of 60 km/h or over experienced during shooting?	<input type="radio"/>	<input type="radio"/>
a. If "yes", was shooting stopped?	<input type="radio"/>	<input type="radio"/>
(1) If shooting was stopped what time did this occur?	_____	
b. Did shooting recommence that day?	<input type="radio"/>	<input type="radio"/>
(1) If shooting recommenced, what time did this occur?	_____	
<b>Description of Action Carried Out After Shooting:</b>		
3. Was the bullet catcher impact area inspected and restored to the required standard (DSA 03)?	<input type="radio"/>	<input type="radio"/>
4. Is the markers gallery clean and tidy?	<input type="radio"/>	<input type="radio"/>
5. Are the firing mounds free of brass and live ammunition?	<input type="radio"/>	<input type="radio"/>
6. Has any damage occurred to the range?	<input type="radio"/>	<input type="radio"/>
If yes, provide description of the damage:		
_____		
_____		
_____		
_____		
<b>Chief Range Officer Details:</b>		
Name: _____ Signature: _____ Date: _____		



## J. Range Safety Maintenance Schedule

The table below provides a generic range safety maintenance schedule for Seddon Range.

Ser	Feature	Inspection Requirement	Inspection Frequency (1)	Maintenance Requirements (2)
(a)	(b)	(c)	(d)	(e)
1.	Impact Areas of the Stop Butt	Check impact area slope has not fallen below 30°/533 mils.	Monthly	Immediately reinstate impact slopes to 34°/605 mils.
		Check impact slope depth is not less than 900mm (HV ammo).	Monthly	Immediately reinstate slope depth to 1,000mm (HV ammo).
		Check heights and widths are compliant	Annually	Immediately reinstate the maximum heights/widths.
		Check impact areas for build-up of spent projectiles on the surface and projectile balling below the surface.	Annually	Remove surface and balling projectiles and any metallic debris.
		Check impact areas for stones or hard objects >30mm in any direction.	Monthly	Immediately remove stone /hard objects >30mm in any direction.
		Check impact areas for accumulation of vegetation.	Monthly	Remove impact area vegetation.
2.	Mantlet	Check the front face slope has not fallen below 30°/533 mils.	Annually	Reinstate the angles and height to specification.
		Check the height and width has not fallen below specification.		
		Check the crest board front face is covered with soil.		Replace soil
		Check the toe boards is visible.		Remove obstructions from the toe board.
		Check the crest back-fall slope angle has not fallen below 8°/142 mils		Reinstate the angle
		Check the crest for scooping.	Monthly	Repair any scooping.
3.	Range Floor	Check the range floor is free from stones or hard objects >30mm in any direction.	Monthly	Removal of stones and/or hard objects >30mm in any direction.
4.	Shooting Mounds	Check the mound crests height are at the minimum of 450mm above the range floor.	Annually	Reinstate the mound to the correct height.

5.	Projectile Strike	Check for projectile strike on surfaces that should not receive strike.	Monthly	Determine the cause and enforce corrective measures to prevent reoccurrence. Repair/replace damaged components.
6.	Targets	Check all targets heights and construction for compliance.	Monthly	Remove all non-compliant targets.
7.	Flags & Signage	Check all range danger or in use flags are functional and range signs are appropriate and legible.	Annually	Immediately repair/replace any deficient flags or systems and signage.
8.	Drains	Check drainage systems for obstructions and contaminants.	Monthly	Clear obstruction and/or contaminates.