National Shooting Centre Bisley Camp Brookwood Woking Surrey GU24 0PB

#### NSC RANGE COMPLEX RISK ASSESSMENT DATED 06 March 2024

#### AIM

1. The aim of this Risk Assessment is to identify existing and potential hazards associated with normal range activity, demonstrate that the appropriate control measures have been put in place and to monitor the overall safety regime applied to the range. Where possible, hazards will be eliminated in their entirety, or reduced to as low as reasonably practicable.

#### **ACTIVITIES**

- 2. The primary activity is live firing, either as a leisure activity, competition or training for competition. The ranges are normally active seven days a week, and up to 52 weeks annually. The complex consists of Gallery, Gallery Rifle, Electronic target, Clay and Moving Target ranges, it is used predominantly by NRA members and affilliated clubs on "Club Days" however MOD, Police and commercial customers are also permitted to use the range under specified conditions.
- 3. The Range Danger Area (RDA) for Bisley range complex extends over a large area of Surrey Heath. The RDA is enclosed within a 16+ kilometre 'preventative' fence with razor wire affixed to the top of the structure raising the height, to approximately 2.0m. The Army Training Centre Pirbright (ATC(P)) security fence south of the main Pirbright range complex forms part of the RDA boundary fence. An inner deer fence has been constructed in certain areas. Two small, separate sections consist of permanent 'HERAS' fencing and a triple concertina of razor wire running adjacent to the chain-link fence (to deter trespassers).
- 4. The RDA has historically been used as an impact/training area and contains an undetermined amount of unexploded ordnance within its boundary (surface and sub-surface).

#### **HAZARDS**

5. A summary of the major hazards:

Ref	Hazard	RA
1	Live firing	
2	Ricochet	
3	Noise	
4	Firearm/Ammunition malfunction	

5	Fall from height	
6	Fire	
7	Unexploded ordnance	
8	Aircraft overflight	
9	Slips, trips and falls	
10	Access and egress	
11	Struck by advancing target	

#### **PERSONS AT RISK**

- 6. The following personnel are considered to be at risk:
  - a. Range users
  - b. Spectators
  - c. NRA staff
  - d. Contractors
  - e. Local Population/Persons in the surrounding area
  - f. Aircraft and passengers

#### RANGE SPECIFIC RISK ASSESSMENT AVAILABILITY

7. Range Specific Risk Assessments are available to range users in the Range Control Office and on the NRA website and must be read by all personnel utilising the NSC ranges or entering the RDA.

#### **RISK MATRIX**

The risk matrix is used to define the level of risk by considering probability or likelihood against severity.

Likelihood			Risk Matrix	
Common/Regular/Frequent	3	Medium 3	High 6	High 9
Occasional	2	Low 2	Medium 4	High 6
Rare/Improbable	1	Low 1	Low 2	Medium 3
SEVERITY		1	2	3
		Minor Injury or	Serious Injury	Fatality Major
		Illness	or Illness	Injury/Illness

J Gray-Piazza Range Services Manager

#### Annexes

- A Century Range
- B Stickledown Range
- C Short Siberia Range
- D Melville Range
- E Cheylesmore Range
- F Winans Range
- G Butt Zero Range
- H Chobham Ridge

# **CENTURY RANGE**

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE - KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Range Clear Procedure - A track runs adjacent to the boundary fence (largely outside). This facilitates the MOD range clearance procedure and an integrity check of the perimeter fence</li> <li>Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range Regulations - contain details of range safety procedures and restrictions including:         <ul> <li>The calibre and type of firearm that may be used</li> <li>Placement of targets</li> <li>Firing point and positions</li> </ul> </li> <li>Movement shooting practises that entail movement with firearms are supervised one to one. Movement with loaded firearms is not permitted unless conducted a part of an NRA supervised practical shooting event</li> <li>Probationary training All live firing is conducted by personnel that have been certified as competent following completion of training.</li> </ul>	1 x 3 Medium	N	

	<ul> <li>Supervision – probationary members that have not completed training are supervised on a one to one basis by qualified personnel at all times whilst on the range.</li> <li>RO is responsible for observing range</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> </ul>			
	<ul> <li>Shooter Competency Certification (SCC) process ensures all shooters are familiar with range procedures and competent with firearms.</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> </ul>			
	<ul> <li>All range bookings are plotted on a master sheet by the Range         Office ensuring safe separation distances are maintained         The Safety Plot sheet is subjected to 3 x independent checks throughout the week     </li> </ul>			
	<ul> <li>Range Safety Staff ensure the correct physical laydown of the range</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>RDA is enclosed by a security fence</li> </ul>			
	Ranges Live signs are displayed on the main access route Live firing times published on the NSC website and Range Regulations Klaxon sounds commencement and cease of shooting			
	<ul> <li>Firing not permitted during fog / reduced visibility</li> <li>Emergency Stop procedure is in place and instructed on all courses</li> </ul>			
Injury from splash back	<ul> <li>Range Regulations mandate minimum engagement distances which are strictly enforced for hard targets</li> <li>All standard targetry is manufactured from non-ricochet inducing materials</li> <li>Members are only permitted to fire at NSC approved targets</li> <li>Prior permission is required to fire at non-standard targetry</li> </ul>	1 x 3 Medium	N	

		<ul> <li>Range design – Ranges comply with mandatory distances between stop butt and mantlet</li> <li>Personnel are instructed to remain under the mantlet during live firing</li> <li>Bullet catchers are inspected, serviced and de-leaded regularly</li> </ul>			
2	Injury from ricochet	<ul> <li>Range Regulations mandate the cladding of ricochet inducing material used in range construction</li> <li>All ranges are inspected regularly</li> <li>Century has a Gallery range safety template applied</li> <li>Stop butt and mantlet profile are maintained at 34° plus</li> <li>Raised firing point projects forward the point of first of impact</li> <li>Raised targetry reduces the possibility of ground strike</li> <li>Calibre, muzzle velocity and muzzle energy are restricted</li> </ul>	2 x 2 Medium	N	
2	Burn from ejected case or metal shard	<ul> <li>Range design provides lane separation</li> <li>Firing points are marked by pegs and separation distances maintained</li> <li>Spectators are kept behind the firing line</li> <li>RO briefing warning risk</li> <li>Eye protection recommended and mandatory for muzzle loaders</li> </ul>	2 x 1 Low	N	
3	Hearing damage	<ul> <li>Range Regulations mandate hearing protection</li> <li>Range is remote from habitation</li> <li>RO must check hearing protection before firing commences</li> <li>Warning signs displayed at appropriate places</li> </ul>	1 x 2 Low	N	
4	Firearm/Ammunition malfunction	<ul> <li>Range Regulations describe misfire procedures</li> <li>Probationary training covers malfunctions in detail</li> <li>Restricted access to firing points</li> <li>RO observation and control of firing</li> <li>Safety Supervisors monitoring firing</li> <li>Range Control and an Armourer are available to assist with firearm incidents/faults/issues</li> <li>Home loaded ammunition is the responsibility of the user and should reference the Code of Practice for hand loaded ammunition as found on the NSC website</li> </ul>	2 x 1	N	

## ANNEX A TO NRA RISK ASSESSMENT DATED 30 January 2024

		<ul> <li>Firearms should not be removed from the point until confirmed clear by RO. Armoury assistance should be called if required.</li> </ul>		
5	Falling from height, incl. open trenches, gallery roofs and other buildings	<ul> <li>Authorised users are aware of the hazards associated with gallery range construction</li> <li>Movement on, or over, the mantlet is not permitted less authorised employees</li> <li>Vertical drop signs are deployed where appropriate</li> <li>Maintenance personnel are briefed during induction and familiarised with the ranges</li> </ul>	2 x 2 Medium	N
6	Fire	<ul> <li>The use of tracer and pyrotechnics is not permitted within the Bisley complex or on NSC ranges</li> <li>Open fires are not permitted</li> <li>The undergrowth and trees on the RDA perimeter tracks and the perimeter fence are cleared periodically by the MOD. This provides a fire break and clear access for fire service vehicles where appropriate</li> <li>Annual mowing of fire breaks within the RDA</li> <li>Fire service personnel have access to both the Pirbright &amp; Bisley range complexes to fight heath fires. Their area of operation is limited to the purpose-built range facilities which have been subject to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges.</li> <li>No smoking within the range or associated buildings</li> <li>No naked flames or sources of ignition to be used on the range</li> <li>Correct storage of flammables in manufactures packaging, e.g. ammunition</li> <li>Fire beaters to be available on ranges as applicable</li> </ul>	1 x 3 Medium	N
7	Unexploded Ordnance	<ul> <li>All NRA/NSC Range staff receive an annual military debris brief from Range Safety Staff.</li> <li>Access restricted and controlled collaboratively via Pirbright and Bisley Range Control All persons not engaged in official business entering the RDA are mandated to book on and off the area via Longmoor Ops Room</li> </ul>	1 x 3 Medium	N

		<ul> <li>All ground penetration in the range danger area must be approved by the Head of Shooting &amp; Training</li> <li>Accessible range floors and firing points have been cleared of unexploded ordnance</li> </ul>		
8	Damage to aircraft	<ul> <li>The RDA incorporates Air Danger Area designated EGD 133 &amp; 133A with an ADH at 1200ft (amsl), increasing to 2400ft (amsl - EGD 133 only).</li> <li>Quadrant Elevation is limited to 70 mils on Century Range and enforced by ROs</li> <li>Air sentries (Range Officers) must be alert to unauthorised air traffic during live firing</li> <li>Firearms are to be in the shoulder levelled at the target prior to being made ready</li> </ul>	1 x 3 Medium	N
9	Slips, trips and falls	<ul> <li>Bridges provided over ditches</li> <li>Ramps provided in multiple firing point areas up to raised firing points</li> <li>Position of firer controlled by RO</li> <li>A good standard of housekeeping maintained within the range area</li> <li>Firing point kept clear and tidy with regular inspection by Range Staff and members prior to shooting</li> <li>Butts kept clear and tidy with regular inspection by Range Staff and markers prior to installing targets</li> <li>Markers required to remain under mantlet</li> <li>Vertical drop signs are deployed where appropriate</li> <li>The surface of the range should be as level as possible and the outdoor surface weed free. All defects should be identified and rectified as quickly as possible by reporting to range control</li> <li>Only essential trailing cables should be used within the range area, when no other viable alternative exists</li> <li>An inspection of the range must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> </ul>	2 x 2 Medium	N

		<ul> <li>Whenever possible members should be given the opportunity to walk / check the route prior to an activity commencing</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> <li>In icy weather NRA staff conduct an inspection of the butts for likely slip hazards and have them treated</li> <li>Salt / grit to be readily available to members/staff to treat icy patches in the butts and approaches</li> </ul>
10	Access and egress	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE – KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Access Control – access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>RO is responsible for observing range</li> <li>Access to firing point from behind using ramps/bridges provided</li> <li>Access to butts via markers walkway or Hobson's way</li> <li>Staying under mantlet when in butts</li> <li>Authorised users are aware of the hazards associated with gallery range construction</li> </ul>

## ANNEX A TO NRA RISK ASSESSMENT DATED 30 January 2024

11 Target	Operating	See specific	"Working in the Butts" risk as	ssessment		
Review Date:	30 J	anuary 2024	Review Date:			
Name:	J Gr	ay-Piazza	Name:			
Rank/Grade:		ge Services ager	Rank/Grade:			
Signature:			Signature:			

ANNEX A TO NRA RISK ASSESSMENT DATED 30 January 2024

### STICKLEDOWN RANGE

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA (a standard security fence accounts for a small proportion of the fence line) Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:  MILITARY FIRING RANGE - KEEP OUT. RDA boundary red flags are not flown at Bisley. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers Range Clear Procedure - A track runs adjacent to the boundary fence (largely outside). This facilitates the MOD range clearance procedure and an integrity check of the perimeter fence Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information Range Regulations - contain details of range safety procedures and restrictions including:  The calibre and type of firearm that may be used Placement of targets Firing point and positions Movement shooting practices that entail movement with firearms are supervised one to one. Movement with loaded firearms is not permitted unless conducted a part of an NRA supervised practical shooting event Probationary training All live firing is conducted by personnel that have been certified as competent following completion of training	1 x 3 Medium	N	

	<ul> <li>Supervision of probationers – probationary members that have not completed training are supervised on and one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing range</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> <li>SCC process ensures all shooters are familiar with range procedures and competent with firearms</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> <li>All range bookings are plotted on a master sheet by the Range Office ensuring safe separation distances are maintained.</li> <li>The Safety Plot sheet is subjected to 3 x independent checks throughout the week</li> <li>Range Safety Staff ensure the correct physical laydown of the range</li> <li>For CNC use Stickledown Range is split into Stickledown A &amp; B this permits the use of Butt Zero and remaining Stickledown targets simultaneously subject to safety separation constraints</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>Ranges Live signs are displayed on the main access route</li> <li>Live firing times published on the NSC website and Range Regulations</li> <li>Klaxon sounds commencement and cease of shooting</li> <li>Firing not permitted during fog / reduced visibility</li> <li>Emergency Stop procedure is in place and instructed on all courses</li> <li>Range floor forward of 800yds is fenced and gate locked</li> <li>Movement forward of 800yds is coordinated with Pirbright Range Control</li> </ul>			
Injury from splash back	Range Regulations designate minimum engagement distances which are strictly enforced for hard targets	1 x 3 Medium	N	

		All standard targetry is manufactured from non-ricochet inducing materials		
		Members are only permitted to fire at NSC approved targets.		
		Range design – Mandatory distances between stop butt and mantlet are strictly observed		
		Personnel are instructed to remain under the mantlet during live firing		
		Bullet catchers are inspected, serviced and de-leaded regularly		
1	Injury from military shooting at Pirbright	<ul> <li>Daily liaison with Pirbright ref range clear procedure</li> <li>Coordinated timing of access and egress to/from Stickledown Butts</li> </ul>	1 x 3	N
		<ul> <li>Fence line at 800yd point preventing access to danger area</li> <li>Locked gate at 800yd point</li> </ul>	Medium	
		<ul> <li>Radio Comms with Stickledown butts</li> <li>Regular liaison with HQ DTE and TSO Pirbright</li> </ul>		
2	Injury from ricochet	Range Regulations mandate the cladding of ricochet inducing	2 x 2	N
		material used in range construction		
		All ranges are inspected regularly	Medium	
		Stickledown has a Full Danger Area safety template		
		Stop butt profile is maintained at 34°		
		<ul> <li>Raised firing point projecting forward the point of first strike.</li> </ul>		
		Raised targetry reducing the possibility of ground strike		
		Calibre, muzzle velocity and muzzle energy are restricted		
2	Injury from ricochet	Ricochet risk from Melville into Stickledown A (Butt Zero) reduced	2 x 2	N
	originating from	by removal of intermediate targetry		
	elsewhere	Melville Witness screens will identify increased ricochet risk early	Medium	
		Ballistic tiles present vertical mini mantlet		
		All Stop Butts regularly maintained		
		<ul> <li>RO responsibility for control, observation and reporting.</li> </ul>		
2	Burn from ejected	Range design provides lane separation	2 x 1	N
	case or metal shard	<ul> <li>Firing points are marked by pegs and separation distances maintained</li> </ul>	Low	
		<ul><li>Spectators are kept behind the firing line</li><li>RO briefing warning risk</li></ul>		
		Eye protection recommended and mandatory for muzzle loaders		

3	Hearing damage	Range Regulations mandate hearing protection	1 x 2	N
		Range is remote from habitation	Low	
		RO check hearing protection before firing commences		
		Warning signs displayed at appropriate places		
4	Firearm/Ammunition	Range regulations describe misfire procedures	2 x 1	N
	malfunction	Probationary training covers malfunctions in detail		
		Restricted access to firing points	Low	
		RO observation and control of firing		
		Safety Supervisors monitoring firing		
		Range Control and an Armourer available to assist with firearm		
		incidents/faults/issues		
		Home loaded ammunition is the responsibility of the user and		
		should reference the Code of Practice for hand loaded ammunition		
		as found on the NSC website		
		Firearms should not be removed from the point until confirmed		
		clear by RO. Armoury assistance should be called if required.		
5	Falling from height,	Authorised users are aware of the hazards associated with gallery	2 x 2	N
	incl. open trenches,	range construction	Modium	
	gallery roofs and other	Movement on, or over, the mantlet is not permitted less authorised	Medium	
	buildings	employees		
		Vertical drop signs are deployed where appropriate		
		Maintenance personnel are briefed during induction and  familiariand with the representations.		
	Fire	familiarised with the ranges	1 4 2	N
6	Fire	The use of tracer and pyrotechnics is not permitted within the  Pictory complex.	1 x 3	N
		Bisley complex     Open fires are not permitted	Medium	
		Open fires are not permitted     The undergrowth and trees on the RDA perimeter tracks and the		
		Prine undergrowth and trees on the RDA perimeter tracks and the perimeter fence are cleared periodically by the MOD. This provides		
		a fire break and clear access for fire service vehicles where		
		appropriate		
		Annual mowing of fire breaks within the RDA		
		Fire service personnel have access to both the Pirbright & Bisley		
		range complexes to fight heath fires. Their area of operation is		
		limited to the purpose-built range facilities which have been subject		
		1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		

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10	Access and agrees	<ul> <li>Vertical drop signs are deployed where appropriate</li> <li>The surface of the range should be as level as possible and the outdoor surface weed free. All defects should be identified and rectified as quickly as possible by reporting to range control</li> <li>Only essential trailing cables should be used within the range area, when no other viable alternative exists</li> <li>An inspection of the range; must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> <li>Whenever possible members should be given the opportunity to walk / check the route prior to an activity commencing</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> <li>In icy weather NRA staff conduct an inspection of the butts for likely slip hazards and have them treated</li> <li>Salt / grit to be readily available to members/staff to treat icy patches in the butts and approaches</li> </ul>	1 x 2	N.	
10	Access and egress	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE - KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range Officer maintains control of all movement and activity</li> </ul>	Low	N	

# ANNEX B TO NSC RISK ASSESSMENT DATED 30 January 2024

Signatu	re:		Signature:			
0: 1		Manager				
Rank/G	rade:	Range Services	Rank/Grade:			
Name:		J Gray-Piazza	Name:			
Review	Date:	30 January 2024	Review Date:		•	•
11	Target operating		nstruction ific "Working in the Butts" risk ass	sessment		
			oust be parked in designated park d users are aware of the hazards	•		
			nder mantlet when in butts			
		boards  • Access to	butts controlled by NSC Range	Control		
		Access a	cross range highlighted by deploy	ment of range safety		
			Boards are deployed to indicate ponsible for observing range	sarety demarcation lines		
		by the R0	nt on the range (falling back) is co co and/or NSC Safety Staff			

# SHORT SIBERIA RANGE

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA (a standard security fence accounts for a small proportion of the fence line)</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:         MILITARY FIRING RANGE - KEEP OUT. RDA boundary red flags are not flown at Bisley. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Range Clear Procedure - A track runs adjacent to the boundary fence (largely outside). This facilitates the MOD range clearance procedure and an integrity check of the perimeter fence</li> <li>Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges and range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range regulations - contain details of range safety procedures and restrictions including:         <ul> <li>The calibre and type of firearm that may be used</li> <li>Placement of targets</li> <li>Firing point and positions</li> </ul> </li> <li>Movement with loaded firearms is not permitted unless conducted a part of an NRA supervised practical shooting event</li> <li>Probationary training - All live firing is conducted by personnel that have been certified as competent following completion of training.</li> <li>Supervision of probationers – probationary members that have not completed training are supervised on a one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing the range</li> </ul>	1 x 3 Medium	N	

		<ul> <li>Range Officer maintains control of all movement and activity</li> <li>SCC process ensures all shooters are familiar with range procedures and competent with firearms</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> <li>All range bookings are plotted on a master sheet by the Range Office ensuring safe separation distances are maintained.</li> <li>The Safety Plot sheet is subjected to 3 x independent checks throughout the week</li> <li>Range Safety Staff ensure the correct physical laydown of the range</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>Ranges Live signs are displayed on the main access route</li> <li>Live firing times published on the NSC website and Range Regulations</li> <li>Klaxon sounds commencement and cease of shooting</li> <li>Firing not permitted during fog / reduced visibility</li> <li>Emergency Stop procedure is in place and instructed on all courses</li> </ul>		
1	Injury from splash back	<ul> <li>Range Regulations designate minimum engagement distances.</li> <li>All standard targetry is manufactured from non-ricochet inducing materials</li> <li>Members are only permitted to fire at NSC approved targets.</li> <li>Prior permission is required to fire at non-standard targetry</li> <li>Range design – Mandatory distances between stop butt and mantlet are observed.</li> <li>Personnel are instructed to remain under the mantlet during live firing</li> <li>Bullet Catcher is inspected, serviced and de-leaded regularly</li> </ul>	1 x 3	N
2	Injury from ricochet	<ul> <li>Range regulations mandate the cladding of ricochet inducing material used in range construction</li> <li>All ranges are inspected regularly</li> <li>Stop butt profile is maintained at 34°</li> </ul>	2 x 2 Medium	N

2	Burn from ejected	<ul> <li>Raised firing point at 200yds projecting forward the point of first strike</li> <li>Raised targetry reducing the possibility of ground strike</li> <li>Calibre, muzzle velocity and muzzle energy are restricted</li> <li>Range design provides lane separation</li> </ul>	2 x 1	N
	case or metal shard	<ul> <li>Firing points are marked by pegs and separation distances maintained</li> <li>Spectators are kept behind the firing line.</li> <li>RO briefing warning risk</li> <li>Eye protection recommended and mandatory for muzzle loaders</li> </ul>	Low	
3	Hearing damage	<ul> <li>Range Regulations mandate hearing protection</li> <li>Range is remote from habitation</li> <li>RO check hearing protection before firing commences</li> <li>Warning signs displayed at appropriate places</li> </ul>	1 x 2 Low	N
4	Firearm/Ammunition malfunction	<ul> <li>Range regulations describe misfire procedures</li> <li>Probationary training covers malfunctions in detail</li> <li>Restricted access to firing points</li> <li>RO observation and control of firing</li> <li>Safety Supervisors monitoring firing</li> <li>Range Control and an Armourer are available to assist with firearm incidents/faults/issues</li> <li>Home loaded ammunition is the responsibility of the user and should reference the Code of Practice for hand loaded ammunition as found on the NSC website</li> <li>Firearms should not be removed from the point until confirmed clear by RO. Armoury assistance should be called if required.</li> </ul>	2 x 1	N
5	Falling from height, incl. open trenches, gallery roofs and other buildings	<ul> <li>Authorised users are aware of the hazards associated with gallery range construction</li> <li>Movement on, or over, the mantlet is not permitted less authorised employees</li> <li>Vertical drop signs are deployed where appropriate</li> <li>Maintenance personnel are briefed during induction and familiarised with the ranges</li> </ul>	2 x 1 Low	N

6	Fire	<ul> <li>The use of tracer and pyrotechnics is not permitted within the Bisley complex or on NSC ranges</li> <li>Open fires are not permitted</li> <li>The undergrowth and trees on the RDA perimeter tracks and the perimeter fence are cleared periodically by the military. This provides a fire break and clear access for fire service vehicles where appropriate</li> <li>Annual mowing of fire breaks within the RDA</li> <li>Fire service personnel have access to both the Pirbright &amp; Bisley range complexes to fight heath fires. Their area of operation is limited to the purpose-built range facilities which have been subject to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges</li> <li>No smoking within the range or associated buildings</li> <li>No naked flames or sources of ignition to be used on the range</li> <li>Correct storage of flammables in manufactures packaging, e.g. ammunition</li> <li>Fire beaters to be available on ranges as applicable</li> </ul>	1 x 3 Medium	N
7	Unexploded Ordnance	<ul> <li>All NRA Range staff receive an annual military debris brief from Range Safety Staff</li> <li>RDA Access restricted and controlled collaboratively via Pirbright and Bisley Range Control</li> <li>All persons not engaged in official business entering the RDA are mandated to book on and off the area via Longmoor Ops Room</li> <li>All ground penetration in the range danger area must be approved by the Head of Shooting &amp; Training</li> <li>Accessible range floors and firing points have been cleared of unexploded ordnance</li> </ul>	1 x 3 Medium	N
8	Damage to aircraft	<ul> <li>The RDA incorporates Air Danger Area designated EGD 133 &amp; 133A with an ADH at 1200ft (amsl), increasing to 2400ft (amsl - EGD 133 only)</li> <li>Quadrant Elevation is limited to 70 mils on Short Siberia Range and enforced by ROs</li> </ul>	1 x 3 Medium	N

9	Slips, trips and falls	<ul> <li>during live firing</li> <li>Firearms are to be in the shoulder levelled at the target prior to being made ready</li> <li>Position of firer controlled by RO</li> <li>A good standard of housekeeping maintained within the range area</li> </ul>	2 x 2 Medium	N
		<ul> <li>Firing point kept clear and tidy with regular inspections by Range Staff and members prior to shooting</li> <li>Butts kept clear and tidy with regular inspection by Range Staff and markers prior to installing targets</li> <li>Markers required to remain under mantlet</li> <li>Vertical drop signs are deployed where appropriate</li> <li>The surface of the range should be as level as possible and the outdoor surface weed free. All defects should be identified and rectified as quickly as possible</li> <li>Only essential trailing cables should be used within the range area, when no other viable alternative exists</li> <li>An inspection of the range; must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> <li>Whenever possible members should be given the opportunity to</li> </ul>		
		<ul> <li>walk / check the route prior to an activity commencing</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> <li>In icy weather NRA staff conduct an inspection of the butts for likely slip hazards and have them treated</li> <li>Salt / grit to be readily available to members/staff to treat icy patches in the butts and approaches</li> </ul>		
10	Access and egress	Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA	1 x 2	N

		<ul> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE – KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Access Control – access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>RO is responsible for observing range</li> <li>Access across range highlighted by deployment of range safety boards</li> <li>Access to butts controlled via road to the LHS of the range</li> <li>Staying under mantlet when in butts</li> <li>All cars must be parked in designated parking area in the butts</li> <li>Authorised users are aware of the hazards associated with gallery range construction</li> <li>Access to firing point from behind using ramps provided</li> </ul>	Low	
11	Target operating	See specific "Working in the Butts" risk assessment		

Review Date:	30 January 2024	Review Date:	
Name:	J Gray-Piazza	Name:	
Rank/Grade:	Range Services Manager	Rank/Grade:	

Signature:	Signature:	

# **MELVILLE RANGE**

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	<ul> <li>Melville Range is enclosed with access points to the rear of the firing point</li> <li>During NRA sponsored activity movement with loaded firearms is not permitted</li> <li>Range Clear Procedure - A track runs adjacent to the boundary fence (largely outside). This facilitates the MOD range clearance procedure and an integrity check of the perimeter fence</li> <li>Access Control – access to the RDA is controlled in consultation by the military and Bisley Range Office. Contractors are instructed to report to Range Office to gain access to the ranges and range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range regulations - contain details of range safety procedures and restrictions including:         <ul> <li>The calibre and type of firearm that may be used</li> <li>Placement of targets</li> <li>Firing point and positions</li> </ul> </li> <li>Probationary training All live firing is conducted by personnel that have been certified as competent following completion of training</li> <li>Supervision of probationers – probationary members that have not completed training are supervised on and one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing the Range</li> </ul>	1 x 3 Medium	N	

		The Bange Officer maintains control of all maximum and activity			
		The Range Officer maintains control of all movement and activity  CO process applying all aboutors are familiar with range.			
		SCC process ensures all shooters are familiar with range			
		procedures and competent with firearms			
		Membership and SCC are checked prior to issuing an NSC firearm			
		or allowing shooting			
		All movement forward of the firing point is controlled by an RO			
		Range Officer duties include vigilance for range incursion			
		Signage and barrier on access to the bullet catcher			
		Ranges Live signs are displayed on the main access route			
		<ul> <li>Live firing times published on the NSC website and Range Regulations</li> </ul>			
		Klaxon sounds commencement and cease of shooting			
		Emergency stop procedure is in place and instructed on all			
		courses			
1	Injury from splash	Range regulations designate minimum engagement distances	1 x 3	N	
	back	All standard targetry is manufactured from non-ricochet inducing			
		materials	Medium		
		<ul> <li>Members are only permitted to fire at NSC approved targets.</li> </ul>			
		Prior permission is required to fire at non-standard targetry			
		Bullet Catcher is inspected, serviced and de-leaded regularly			
		All ricochet inducing materiel is removed or protected			
2	Injury from ricochet	Range regulations mandate the cladding of ricochet inducing	2 x 2	N	
		material used in range construction			
		All ranges are inspected regularly	Medium		
		Stop butt profile is maintained at 34°			
		Calibre, muzzle velocity and muzzle energy are restricted			
		Witness screens are fitted to firing bay walls to provide early			
		warning of ricochet			
		Requirement to report side strike/ricochet			
		Ballistic tiles are fitted to mantlet walls			
		Vertical mini mantlet in the form of a wall			
		Raised firing point projecting first point of impact forward			
	1	1	1		

2	Burn from ejected	RO briefing warning of risk	2 x 1	N
	case or metal shard	Lane spacing and marking		
		Lane screening available at 50yd point	Low	
		<ul> <li>Eye protection recommended and mandatory for muzzle loaders.</li> </ul>		
		Spectators are kept behind the firing line		
3	Hearing damage	Range Regulations mandate hearing protection	1 x 2	N
	Troaming damage	Range is remote from habitation		
		RO check hearing protection before firing commences	Low	
		Range is enclosed		
		Warning signs displayed at appropriate places		
4	Firearm/Ammunition	Range regulations describe misfire procedures	1 x 2	N
	malfunction	Probationary training covers firearm malfunction in some detail	' ^ _	
	Than arrows	Restricted access to firing points	Low	
		RO observation and control of firing		
		Safety Supervisors monitoring firing		
		Range Control and an Armourer available to assist with firearm		
		faults/issues		
		Home loaded ammunition is the responsibility of the user and		
		should reference the Code of Practice for hand loaded ammunition		
		as found on the NSC website		
		Firearms should not be removed from the point until confirmed		
		clear by RO. Armoury assistance should be called if required.		
6	Fire	The use of tracer and pyrotechnics is not permitted within the	1 x 3	N
		Bisley complex or on NSC ranges		
		Open fires are not permitted	Medium	
		The undergrowth and trees on the RDA perimeter tracks and the		
		perimeter fence are cleared periodically by the military. This		
		provides a fire break and clear access for fire service vehicles		
		where appropriate		
		Annual mowing of fire breaks within the RDA		
		Fire service personnel have access to both the Pirbright & Bisley		
		range complexes to fight heath fires. Their area of operation is		
		limited to the purpose-built range facilities which have been subject		

		to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges  No smoking within the range or associated buildings  No naked flames or sources of ignition to be used on the range  Correct storage of flammables in manufactures packaging, e.g. ammunition  Fire beaters to be available on ranges as applicable		
9	Slips, trips and falls	<ul> <li>Non slip floor covering</li> <li>Ramps provided at terraces</li> <li>Position of firer controlled by RO</li> <li>Approach to target controlled by the RO</li> <li>Approach to target via ramped route</li> <li>A good standard of housekeeping maintained within the range area</li> <li>Firing point kept clear and tidy with regular inspection by Range Staff and members prior to shooting</li> <li>The surface of the range should be as level as possible and the outdoor surface weed free. All defects should be identified and rectified as quickly as possible</li> <li>Only essential trailing cables should be used within the range area when no other viable alternative exists</li> <li>An inspection of the range; must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> <li>Whenever possible members should be given the opportunity to walk / check the route prior to an activity commencing</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> <li>In icy weather NRA staff conduct an inspection of the range for likely slip hazards and have them treated</li> </ul>	2 x 2 Medium	N

# ANNEX D TO NSC RISK ASSESSMENT DATED 30 January 2024

		Salt / grit to be readily available to members/staff to treat icy		
		patches in the butts and approaches		
10	Access and egress	Enclosed range	1 x 2	N
		Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA	Low	
		Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE - KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers		
		<ul> <li>Access Control – access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Access to firing point from behind</li> <li>Approach to target controlled by the RO</li> </ul>		
		<ul> <li>Approach to target via ramped route</li> <li>Range Officer maintains control of all movement and activity on the firing point</li> </ul>		
11	Target operation	<ul> <li>Position of firer supervised and controlled by RO</li> <li>No requirement to approach target</li> </ul>	1 x 2	N
		Designated firing point	Low	
		<ul> <li>No movement forward of the firing point permitted without authorisation from Range Services personnel agreed with the RO.</li> </ul>		

Review Date:	30 January 2024	Review Date:	
Name:	J Gray-Piazza	Name:	

## ANNEX D TO NSC RISK ASSESSMENT DATED 30 January 2024

Rank/Grade:	Range Services	Rank/Grade:	
	Manager		
Signature:		Signature:	

### CHEYLESMORE RANGE

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	Cheylesmore Range is a NDA range	1 x 3	N	
		<ul> <li>Cheylesmore Range is enclosed with access points to the rear of the firing point</li> <li>During NRA sponsored activity movement with loaded firearms is not permitted</li> </ul>	Medium		
		<ul> <li>Range regulations - contain details of range safety procedures and restrictions including: <ul> <li>The calibre and type of firearm that may be used.</li> <li>Placement of targets</li> <li>Firing point and positions</li> </ul> </li> <li>Probationary training All live firing is conducted by personnel that have been certified as competent following completion of training</li> <li>Supervision of probationers – probationary members that have not completed training are supervised on a one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing the Range</li> <li>The Range Officer maintains control of all movement and activity</li> <li>SCC process ensures all shooters are familiar with range procedures and competent with firearms</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> <li>All movement forward of the firing point is controlled by an RO</li> <li>Range Officer duties include vigilance for range incursion</li> <li>Signage and barrier on access to the bullet catcher</li> <li>Ranges Live signs are displayed on the main access route</li> </ul>			
		<ul> <li>Live firing times published on the NSC website and Range Regulations</li> <li>Klaxon sounds commencement and cease of shooting</li> </ul>			

		Emergency stop procedure is in place and instructed on all courses		
1	Injury from splash	Range regulations designate minimum engagement distances	1 x 3	N
	back	<ul> <li>All standard targetry is manufactured from non-ricochet inducing materials</li> </ul>	Medium	
		Members are only permitted to fire at NSC approved targets		
		Prior permission is required to fire at non-standard targetry		
		Bullet Catcher is inspected. serviced and de-leaded regularly		
		All ricochet inducing materiel is removed or protected		
3	Injury from ricochet	Range regulations mandate the cladding of ricochet inducing	2 x 2	N
		material used in range construction	l	
		All ranges are inspected regularly	Medium	
		Stop butt profile is maintained at 34 degrees		
		Calibre, muzzle velocity and muzzle energy are restricted		
		Witness screens are fitted to firing bay walls to provide early		
		warning of ricochet		
		Requirement to report side strike/ricochet		
		Ballistic tiles are fitted to mantlet walls		
		Vertical mini mantlet in the form of a wall		
		Range floor maintained and free from ricochet inducing material		
2	Burn from ejected	RO briefing warning of risk	2 x 1	N
	case or metal shard	Lane spacing and marking		
		Lane screening available at 25yd point	Low	
		Eye protection recommended and mandatory for muzzle loaders.		
		Spectators are kept behind the firing line		
2	Pop Over	Stop Butt is maintained to 34 <sup>0</sup>	2 x 2	N
		Rear wall height 15m+	Ma alicona	
		Net canopy fitted to contain pop overs	Medium	
		Calibre restriction imposed to <.44		
		Max ME 2030J		
3	Hearing damage	Range Regulations mandate hearing protection	1 x 2	N
		Range is remote from habitation	Law	
		RO check hearing protection before firing commences	Low	

		<ul><li>Range is enclosed</li><li>Warning signs displayed at appropriate places</li></ul>		
4	Firearm/Ammunition malfunction	<ul> <li>Range regulations describe misfire procedures</li> <li>Probationary training covers firearm malfunction in some detail</li> <li>Restricted access to firing points</li> <li>RO observation and control of firing</li> <li>Safety Supervisors monitoring firing</li> <li>Range Control and an Armourer available to assist with firearm incidents/faults/issues</li> <li>Home loaded ammunition is the responsibility of the user and should reference the Code of Practice for hand loaded ammunition as found on the NSC website</li> <li>Firearms should not be removed from the point until confirmed clear by RO. Armoury assistance should be called if required.</li> </ul>	2 x 1 Low	N
6	Fire	<ul> <li>The use of tracer and pyrotechnics is not permitted within the Bisley complex or on NSC ranges</li> <li>Open fires are not permitted</li> <li>The undergrowth and trees on the RDA perimeter tracks and the perimeter fence are cleared periodically by the military. This provides a fire break and clear access for fire service vehicles where appropriate</li> <li>Annual mowing of fire breaks within the RDA</li> <li>Fire service personnel have access to both the Pirbright &amp; Bisley range complexes to fight heath fires. Their area of operation is limited to the purpose-built range facilities which have been subject to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges</li> <li>No smoking within the range or associated buildings</li> <li>No naked flames or sources of ignition to be used on the range</li> <li>Correct storage of flammables in manufactures packaging, e.g. ammunition</li> <li>Fire beaters to be available on ranges as applicable</li> </ul>	1 x 3 Medium	N
9	Slips, trips, and falls	<ul><li>Non slip floor covering</li><li>Ramps provided at terraces</li></ul>	2 x 2	N

		Position of firer controlled by RO	Medium		
		Approach to target controlled by the RO			
		Approach to target via ramped route			
		A good standard of housekeeping maintained within the range			
		area			
		Firing point kept clear and tidy with regular inspection by Range			
		Staff and members prior to shooting			
		The surface of the range should be as level as possible and the			
		outdoor surface weed free. All defects should be identified and			
		rectified as quickly as possible			
		Only essential trailing cables should be used within the range area			
		when no other viable alternative exists			
		An inspection of the range; must be conducted by the RO prior to			
		any firearms activity within the range starting			
		RO brief to firers to ensure they understand any hazards and			
		controls			
		Whenever possible members should be given the opportunity to			
		walk / check the route prior to an activity commencing			
		All range furniture such as moveable barriers should be			
		constructed in a manner that they do not present a risk of falling			
		over or collapsing when in contact with members whilst			
		undertaking shooting			
		In icy weather NRA staff conduct an inspection of the range for			
		likely slip hazards and have them treated			
		<ul> <li>Salt / grit to be readily available to members/staff to treat icy patches in the butts and approaches</li> </ul>			
10	Access and egress	Enclosed range	1 x 2	N	
	7.00000 and ogicos	Access to firing point from behind	1 7 2	``	
		Approach to target controlled by the RO	Low		
		Approach to target controlled by the NO     Approach to target via ramped route			
		<ul> <li>Range Officer maintains control of all movement and activity on the</li> </ul>			
		firing point			
11	Target Operation	Position of firer supervised and controlled by RO	1 x 2	N	
		No requirement to approach target			

## ANNEX E TO NSC RISK ASSESSMENT DATED 30 January 2024

	Designated	<del>-</del> .		Low	
		•	forward of the firing point permitted without		
	authorisation	n from Range Services perso	onnel agreed with the RO.		
	30 January 2024	Review Date:			
Review Date:					
Name:	J Gray-Piazza	Name:			
Rank/Grade:	Range Services Manager	Rank/Grade:			
Signature:		Signature:			

## ANNEX F TO NSC RISK ASSESSMENT DATED 30 January 2024

### **WINANS RANGE**

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	<ul> <li>Winans Range is a NDA range</li> <li>Winans Range is enclosed with access points to the rear of the firing point</li> <li>Movement with loaded firearms is only permitted during specifically designated practises and then only within constraints laid down within range regulations</li> <li>Range regulations - contain details of range safety procedures and restrictions including:         <ul> <li>The calibre and type of firearm that may be used</li> <li>Placement of targets</li> <li>Firing point and positions</li> </ul> </li> <li>Probationary training All live firing is conducted by personnel that have been certified as competent following completion of training</li> <li>Supervision of probationers – probationary members that have not completed training are supervised on a one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing the Range</li> <li>Range Officer maintains control of all movement and activity.</li> <li>SCC process ensures all shooters are familiar with range procedures and competent with firearms</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> <li>All movement forward of the firing point is controlled by an RO</li> <li>Range Officer duties include vigilance for range incursion</li> <li>Signage and barrier on access to the bullet catcher</li> <li>Ranges Live signs are displayed on the main access route</li> <li>Live firing times published on the NSC website and Range Regulations</li> </ul>	1 x 3 Medium	N .	

		Klaxon sounds commencement and cease of shooting     Emergency stop procedure is in place and instructed on all courses		
1	Injury from splash back	<ul> <li>Range regulations designate minimum engagement distances</li> <li>All standard targetry is manufactured from non-ricochet inducing materials</li> <li>Members are only permitted to fire at NSC approved targets</li> <li>Prior permission is required to fire at non-standard targetry</li> <li>Bullet Catcher is inspected. serviced and de-leaded regularly</li> <li>All ricochet inducing material is removed or protected</li> </ul>	1 x 3 Medium	N
3	Injury from ricochet	<ul> <li>Range regulations mandate the cladding of ricochet inducing material used in range construction</li> <li>All ranges are inspected regularly</li> <li>Stop butt profile is maintained at 34 degrees</li> <li>Calibre, muzzle velocity and muzzle energy are restricted</li> <li>Witness screens are fitted to firing bay walls to provide early warning of ricochet</li> <li>Requirement to report side strike/ricochet</li> <li>Ballistic tiles are fitted to mantlet walls</li> <li>Vertical mini mantlet in the form of a wall</li> <li>Range floor maintained and free from ricochet inducing material.</li> </ul>	2 x 2 Medium	N
2	Burn from ejected case or metal shard	<ul> <li>RO briefing warning of risk</li> <li>Lane spacing and marking</li> <li>Lane screening available at 25yd point</li> <li>Eye protection recommended and mandatory for muzzle loaders</li> <li>Spectators are kept to the rear of the firing point</li> </ul>	2 x 1 Low	N
2	Pop Over	<ul> <li>Stop Butt is maintained to 34°</li> <li>Rear wall height 7m+</li> <li>Net canopy fitted to contain shotgun slug pop overs</li> <li>Calibre restriction imposed to &lt;.44</li> <li>Max ME 2030J</li> </ul>	2 x 2 Medium	N
3	Hearing damage	<ul> <li>Range Regulations mandate hearing protection</li> <li>Range is remote from habitation</li> </ul>	1 x 2 Low	N

		RO check hearing protection before firing commences			
		Range is enclosed			
		Warning signs displayed at appropriate places			
4	Firearm/Ammunition	Range regulations include misfire procedures	2 x 1	N	
	malfunction	<ul> <li>Probationary training covers firearm malfunction in some detail.</li> </ul>			
		Restricted access to firing points	Low		
		<ul> <li>RO observation and control of firing</li> </ul>			
		Safety Supervisors monitoring firing			
		<ul> <li>Rang Control and an Armourer are available to assist with firearm</li> </ul>			
		incidents/faults/issues			
		<ul> <li>Home loaded ammunition is the responsibility of the user and</li> </ul>			
		should reference the Code of Practice for hand loaded ammunition			
		as found on the NSC website			
		<ul> <li>Firearms should not be removed from the point until confirmed</li> </ul>			
		clear by RO. Armoury assistance should be called if required.			
6	Fire	<ul> <li>The use of tracer and pyrotechnics is not permitted within the</li> </ul>	1 x 3	N	
		Bisley complex or on NSC ranges	Medium		
		Open fires are not permitted	Mediaiii		
		The undergrowth and trees on the RDA perimeter tracks and the			
		perimeter fence are cleared periodically by the military. This			
		provides a fire break and clear access for fire service vehicles			
		where appropriate			
		Annual mowing of fire breaks within the RDA  The state of the			
		Fire service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to both the Pirbright & Bisley  The service personnel have access to be accessed to be ac			
		range complexes to fight heath fires. Their area of operation is			
		limited to the purpose-built range facilities which have been subject			
		to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges			
		<ul> <li>No smoking within the range or associated buildings</li> </ul>			
		<ul> <li>No naked flames or sources of ignition to be used on the range</li> </ul>			
		<ul> <li>Correct storage of flammables in manufactures packaging, e.g.</li> </ul>			
		ammunition			
		Fire beaters to be available on ranges as applicable			
1		- The beaters to be available of fallyes as applicable			

9	Slips, trips, and falls	Non slip floor covering	2 x 2	N
	Chipo, thipo, and rand	Ramps provided at terraces		
		Position of firer controlled by RO	Medium	
		Approach to target controlled by the RO		
		Approach to target via ramped route		
		<ul> <li>A good standard of housekeeping maintained within the range area</li> </ul>		
		Firing point kept clear and tidy with regular inspection by Range		
		Staff and members prior to shooting		
		The surface of the range should be as level as possible and the		
		outdoor surface weed free. All defects should be identified and rectified as quickly as possible		
		Only essential trailing cables should be used within the range area		
		when no other viable alternative exists		
		An inspection of the range; must be conducted by the RO prior to		
		any firearms activity within the range starting		
		<ul> <li>RO brief to firers to ensure they understand any hazards and controls</li> </ul>		
		Whenever possible members should be given the opportunity to		
		walk / check the route prior to an activity commencing		
		All range furniture such as moveable barriers should be		
		constructed in a manner that they do not present a risk of falling		
		over or collapsing when in contact with members whilst		
		undertaking shooting		
		In icy weather NRA staff conduct an inspection of the range for		
		likely slip hazards and have them treated		
		Salt / grit to be readily available to members/staff to treat icy		
		patches in the butts and approaches		
10	Access and egress	Enclosed range	1 x 2	N
		Access to firing point from behind		
		Approach to target controlled by the RO	Low	
		Approach to target via ramped route		
		Range Officer maintains control of all movement and activity on the		
		firing point		

## ANNEX F TO NSC RISK ASSESSMENT DATED 30 January 2024

11	Target Operation	•	Position of firer supervised and controlled by RO	1 x 2	N	
		•	No requirement to approach target			
		•	Designated firing point	Low		
		•	No movement forward of the firing point permitted without			
			authorisation from Range Services personnel agreed with the RO			

Review Date:	30 January 2024	Review Date:	
Name:	J Gray-Piazza	Name:	
Rank/Grade:	Range Services Manager	Rank/Grade:	
Signature:		Signature:	

## **BUTT ZERO**

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA (a standard security fence accounts for a small proportion of the fence line)</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:</li></ul>	1 x 3 Medium	N .	

	<ul> <li>Firing not permitted during fog / reduced visibility</li> <li>Emergency Stop procedure is in place and instructed on all courses</li> <li>Range floor forward of 800yds is fenced and gate locked</li> <li>Movement forward of 800yds is coordinated with Pirbright Range</li> </ul>		
	<ul> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>Ranges Live signs are displayed on the main access route</li> <li>Live firing times published on the NSC website and Range Regulations</li> <li>Klaxon sounds commencement and cease of shooting</li> </ul>		
	<ul> <li>range.</li> <li>For CNC use Stickledown Range is split into Stickledown A &amp; B this permits the use of Butt Zero and remaining Stickledown targets simultaneously subject to safety separation constraints.</li> </ul>		
	<ul> <li>SCC process ensures all shooters are familiar with range procedures and competent with firearms</li> <li>Membership and SCC are checked prior to issuing an NSC firearm or allowing shooting</li> <li>All range bookings are plotted on a master sheet by the Range Office ensuring safe separation distances are maintained</li> <li>The Safety Plot sheet is subjected to 3 x independent checks throughout the week</li> <li>Range Safety Staff ensure the correct physical laydown of the</li> </ul>		
	<ul> <li>Supervision of probationers – probationary members that have not completed training are supervised on and one to one basis by qualified personnel at all times whilst on the range</li> <li>RO is responsible for observing range</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> <li>SCC process ensures all shooters are familiar with range</li> </ul>		

		Locked gate at 800yd point			
		Radio Comms with Stickledown butts			
		Regular liaison with HQ DTE and TSO Pirbright			
1	Injury from splash back	Range Regulations designate minimum engagement distances	1 x 3	N	
	Buck	<ul> <li>which are strictly enforced for hard targets</li> <li>All standard targetry is manufactured from non-ricochet inducing materials</li> </ul>	Medium		
		<ul> <li>Members are only permitted to fire at NSC approved targets.</li> </ul>			
		<ul> <li>Personnel are instructed to remain under Stickledown mantlet during live firing</li> </ul>			
		Bullet catcher is inspected, serviced and de-leaded regularly			
		Prior permission is required to fire at non-standard targetry			
		Bullet Catcher is inspected, serviced and de-leaded regularly			
		All ricochet inducing materiel is removed or protected			
2	Injury from ricochet	Range regulations mandate the cladding of ricochet inducing material used in range construction	2 x 2	N	
		All ranges are inspected regularly	Medium		
		Butt Zero fires into a Full Danger Area safety template			
		<ul> <li>Stop butt profile is maintained at 34°</li> </ul>			
		<ul> <li>Raised targetry reducing the possibility of ground strike</li> </ul>			
		Calibre, muzzle velocity and muzzle energy are restricted			
	Letomorform de la colonia	Movement on the Range is controlled during shooting hours		NI NI	
3	Injury from ricochet originating from	Ricochet risk from Melville into Stickledown A (Butt Zero) reduced	2 x 2	N	
	elsewhere	by removal of intermediate targetry	Medium		
	GIGG WHOLG	Melville witness screens will identify increased ricochet risk early	Wicalam		
		Ballistic tiles present vertical mini mantlet  All Step Butte regulative pointsined.			
		All Stop Butts regularly maintained  One of the stop of the s			
2	Burn from ejected	RO responsibility for control, observation and reporting.      Denote design, provides long approximation.	2 x 1	N	
	case or metal shard	Range design provides lane separation  Figure points are marked by page and concretion distances.	2 X 1	IN .	
	Sado di metal dilara	<ul> <li>Firing points are marked by pegs and separation distances maintained</li> </ul>	Low		
		Spectators are kept behind the firing line.			
		RO briefing warning risk			
		Eye protection recommended and mandatory for muzzle loaders			

3	Hearing damage	Range Regulations mandate hearing protection	1 x 2	N	
		Range is remote from habitation	Law		
		RO check hearing protection before firing commences	Low		
		Warning signs displayed at appropriate places			
4	Firearm/Ammunition	Range regulations describe misfire procedures	2 x 1	N	
	malfunction	Probationary training covers malfunctions in detail			
		Restricted access to firing points	Low		
		RO observation and control of firing			
		Safety Supervisors monitoring firing			
		Range Control and an Armourer available to assist with firearm incidents/faults/issues			
		Home loaded ammunition is the responsibility of the user and			
		should reference the Code of Practice for hand loaded ammunition			
		as found on the NSC website			
		Firearms should not be removed from the point until confirmed clear by RO. Armoury assistance should be called if required.			
5	Falling from height, incl. open trenches, gallery roofs and other buildings	Authorised users are aware of the hazards associated with gallery	2 x 2	N	
		Vertical drop signs are deployed where appropriate	Medium		
		Maintenance personnel are briefed during induction and			
	E'	familiarised with the ranges	4 0	NI NI	
6	Fire	The use of tracer and pyrotechnics is not permitted within the	1 x 3	N	
		Bisley complex	Medium		
		Open fires are not permitted  The state of the permitted to the permi			
		The undergrowth and trees on the RDA perimeter tracks and the			
		perimeter fence are cleared periodically by the MOD. This provides			
		a fire break and clear access for fire service vehicles where			
		appropriate			
		Annual mowing of fire breaks within the RDA  Fire particular approach to be a possible to the Right of Rig			
		Fire service personnel have access to both the Pirbright & Bisley  range complexes to fight heath fires. Their area of energies is			
		range complexes to fight heath fires. Their area of operation is			
		limited to the purpose-built range facilities which have been subject			
		to EOC. Their limit of exploitation is no further north of the			
		butts/target lines on the ranges			
		No smoking within the range or associated buildings			

		No naked flames or sources of ignition to be used on the range			
		Correct storage of flammables in manufactures packaging, e.g.			
		ammunition			
		Fire beaters to be available on ranges as applicable			
7	Unexploded Ordnance	All NRA/NSC Range staff receive an annual military debris brief	1 x 3	N	
	·	from Range Safety Staff			
		RDA access restricted and controlled collaboratively via Pirbright	Medium		
		and Bisley Range Control.			
		All persons not engaged on official business entering the RDA are			
		mandated to book on and off the area via Longmoor Ops Room			
		All ground penetration in the range danger area must be approved			
		by the Head of Shooting & Training			
		Accessible range floors and firing points have been cleared of			
		unexploded ordnance			
8	Damage to aircraft	The RDA incorporates Air Danger Area designated EGD 133 &	1 x 3	N	
		133A with an ADH at 1200ft (amsl), increasing to 2400ft (amsl -	N 4 a alii waa		
		EGD 133 only)	Medium		
		Quadrant Elevation is limited to 150mils			
		Air sentries (Range Officers) must be alert to unauthorised air			
		traffic during live firing			
		<ul> <li>Firearms are to be in the shoulder levelled at the target prior to being made ready</li> </ul>			
9	Slips, trips and falls	Position of firer controlled by RO	2 x 2	N	
		A good standard of housekeeping maintained within the range			
		area	Medium		
		Firing point kept clear and tidy with regular inspection by Range			
		Staff and members prior to shooting			
		Butts kept clear and tidy with regular inspection by Range Staff			
		and markers prior to installing targets			
		Stay under mantlet, do not cross over trogg			
		Vertical drop signs are deployed where appropriate			
		The surface of the range should be as level as possible and the			
		outdoor surface weed free. All defects should be identified and			
		rectified as quickly as possible by reporting to range control			

10	Access and egress	<ul> <li>Only essential trailing cables should be used within the range area, when no other viable alternative exists</li> <li>An inspection of the range; must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> <li>Whenever possible members should be given the opportunity to walk / check the route prior to an activity commencing</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> <li>In icy weather NRA staff conduct an inspection of the butts for likely slip hazards and have them treated</li> <li>Salt / grit to be readily available to members/staff to treat icy patches in the butts and approaches</li> <li>Boundary Fencing- a 2.0m perimeter fence has been erected</li> </ul>	1 x 2	N	
		<ul> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE - KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Access to firing point from behind</li> <li>Approach to target controlled by the RO</li> <li>Approach to target via ramped route</li> <li>Range Officer maintains control of all movement and activity on the firing point</li> </ul>	Low		
11	Target operation	Position of firer supervised and controlled by RO	1 x 2	N	

No requirement to approach target	Low	
Designated firing point		
<ul> <li>No movement forward of the firing point permitted without</li> </ul>		
authorisation from Range Services personnel agreed with the RO.		

Review Date:	30 January 2024	Review Date:	
Name:	J Gray-Piazza	Name:	
Rank/Grade:	Range Services Manager	Rank/Grade:	
Signature:	_	Signature:	

## **CHOBHAM RIDGE**

Hazard Ref	Hazard	Existing Control Measures	Risk Rating	Add Control	Review Freq
1	Gunshot injury	Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA (a standard security fence accounts for a small proportion of the fence line) Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:  MILITARY FIRING RANGE - KEEP OUT. RDA boundary red flags are not flown at Bisley. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers Range Clear Procedure - A track runs adjacent to the boundary fence (largely outside). This facilitates the MOD range clearance procedure and an integrity check of the perimeter fence Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information Range regulations - contain details of range safety procedures and restrictions including:  The calibre and type of firearm that may be used Placement of targets Firing point and positions Movement with loaded firearms is not permitted Probationary members and guests may shoot on Chobham Ridge Range but they are to be supervised 1:1 and all elevation settings checked prior to any shot being released RO is responsible for observing range An NSC appointed RO is required for each firing point A Range Officer is appointed to maintain control of all activity on and around the firing point	1 x 3 Medium	N N	Freq

All shooting is conducted in accordance with Bisley Range	
Regulations and under the direct supervision of an NRA instructor	
<ul> <li>SCC process ensures all shooters are familiar with range</li> </ul>	
procedures and competent with firearms	
Membership and SCC are checked prior to issuing an NSC firearm	
or allowing shooting	
Firing not permitted during fog / reduced visibility	
All shooters will be provided with a safety brief on arrival at the	
NSC	
<ul> <li>Movement with loaded firearms is not permitted</li> </ul>	
<ul> <li>Prior to shooting at long range hard targets shooters are to prove</li> </ul>	
zero and capability at shorter range targets	
If a shooter consistently misses a target they will not be permitted	
to proceed to longer distances	
All shooting is supervised 1:1 and initial elevation settings will be	
checked prior to shooting at long range targets	
Each shooter will have a dedicated spotter to identify fall of shot.	
<ul> <li>Targets are positioned to ensure an average cone of fire is</li> </ul>	
captured by the ground	
The firing point is in an elevated position ensuring that the	
trajectory of the projectile is downwards ensuring a terrain	
backstop	
Firearms are to be in the shoulder aimed at the target prior to the	
bolt being closed on a live round	
All shots are to be released within the X & Y or L & R arc markers	
Access and egress to Stickledown is strictly controlled	
Markers in the butts protected from Chobham Ridge by the Stop	
butt	
Stickledown markers gallery is 2.4km from firing point and the	
trajectory is depressed	
Live firing times published on the NRA website and Range	
Regulations	
Chobham Ridge access gates are secured whilst shooting is taking	
place	

		<ul> <li>Red flags are flown at the access point and at the range building whilst shooting is taking place</li> <li>RO is responsible for observing range danger area whilst shooting is taking place</li> <li>Emergency Stop procedure is in place</li> </ul>			
1	Injury from military shooting at Pirbright	<ul> <li>Chobham Ridge firing point is outside of the Pirbright Range Templates.</li> <li>Daily liaison with Pirbright ref range clear procedure</li> <li>The NSC receives a weekly range Summary detailing activity at Pirbright</li> <li>Coordinated timing of access and egress to/from target locations</li> <li>Regular liaison with HQ DTE and TSO Pirbright</li> <li>No unauthorised movement forward of the firing point</li> <li>Direct communication with the NRA Range Office who coordinate military and NSC activity</li> <li>Military style shooting is pre-booked and strictly controlled by a Range officer and Range Standing Orders</li> </ul>	1 x 3 Medium	N	
2	Injury from ricochet	<ul> <li>Elevated firing point and the terrain minimise the likelihood of ground strike prior to reaching the target</li> <li>After 300m bullet velocity is LV therefore ricochet is assessed using LV criteria</li> <li>Targetry is located to ensure a terrain back stop is provided</li> <li>Longer range targetry in more elevated positions may only be engaged on with instructor permission and under strict supervision</li> <li>All shooting is supervised 1:1</li> <li>A dedicated spotter is monitoring the fall of shot</li> <li>Calibre and muzzle energy are restricted to .308 and 4500J respectively</li> </ul>	2 x 2 Medium	N	
2	Burn from ejected case or metal shard	<ul> <li>Range design provides lane separation</li> <li>Firing points are marked by pegs and separation distances maintained</li> <li>Spectators are kept behind the firing line</li> <li>RO briefing warning risk</li> </ul>	2 x 1 Low	N	
3	Hearing damage	<ul> <li>Range Regulations mandate hearing protection</li> <li>Range is remote from habitation</li> </ul>	1 x 2 Low	N	

		RO check hearing protection before firing commences     Warning signs displayed at appropriate places.		
4	Firearm/Ammunition Malfunction	<ul> <li>Warning signs displayed at appropriate places</li> <li>Range regulations describe misfire procedures</li> <li>Probationary training covers malfunctions in detail</li> <li>Restricted access to firing points</li> <li>RO observation and control of firing</li> <li>Safety Supervisors monitoring firing</li> <li>Range Control and an Armourer available to assist with firearm</li> </ul>	2 x 1 Low	N
		<ul> <li>incidents/faults/issues</li> <li>Home loaded ammunition is the responsibility of the user and should reference the Code of Practice for hand loaded ammunition as found on the NSC website</li> <li>Firearms should not be removed from the point until confirmed clear by RO. Armoury assistance should be called if required.</li> <li>Shooters that have not attended NRA Probationary training are supervised 1:1, any firearm incident will be controlled by the instructor</li> </ul>		
5	Falling from height, incl. open trenches, and other buildings	<ul> <li>Authorised users are aware of the hazards associated with gallery range construction</li> <li>Movement on, or over, the mantlet is not permitted less authorised employees</li> <li>Vertical drop signs are deployed where appropriate</li> <li>Maintenance personnel are briefed during induction and familiarised with the ranges</li> </ul>	2 x 2 Medium	N
6	Fire	<ul> <li>The use of tracer and pyrotechnics is not permitted within the Bisley complex</li> <li>Open fires are not permitted</li> <li>The undergrowth and trees on the RDA perimeter tracks and the perimeter fence are cleared periodically by the MOD. This provides a fire break and clear access for fire service vehicles where appropriate</li> <li>Annual mowing of fire breaks within the RDA</li> <li>Fire service personnel have access to both the Pirbright &amp; Bisley range complexes to fight heath fires. Their area of operation is limited to the purpose-built range facilities which have been subject</li> </ul>	2 x 2 Medium	N

		to EOC. Their limit of exploitation is no further north of the butts/target lines on the ranges  No smoking within the range or associated buildings  No naked flames or sources of ignition to be used on the range  Correct storage of flammables in manufactures packaging, e.g.			
		<ul><li>ammunition</li><li>Fire beaters to be available on ranges as applicable</li></ul>			
7	Unexploded Ordnance	<ul> <li>All NRA/NSC Range staff receive an annual military debris brief from Range Safety Staff</li> <li>RDA access restricted and controlled collaboratively via Pirbright and Bisley Range Control</li> <li>All persons not engaged on official business entering the RDA are mandated to book on and off the area via Longmoor Ops Room</li> <li>All ground penetration in the range danger area must be approved by the Head of Shooting &amp; Training</li> <li>Accessible range floors and firing points have been cleared of unexploded ordnance</li> </ul>	1 x 3 Medium	N	
8	Damage to Aircraft	<ul> <li>The RDA incorporates Air Danger Area designated EGD 133 &amp; 133A with an ADH at 1200ft (amsl), increasing to 2400ft (amsl - EGD 133 only)</li> <li>Quadrant Elevation is limited to 150 mils however the actual line of fire is depressed</li> <li>Air sentries (Range Officers) must be alert to unauthorised air traffic during live firing</li> <li>Firearms are to be in the shoulder levelled at the target prior to being made ready</li> </ul>	1 x 3 Medium	N	
9	Slips, trips and falls	<ul> <li>Position of firer controlled by RO</li> <li>A good standard of housekeeping maintained within the range area</li> <li>Firing point kept clear and tidy with regular inspection by Range Staff and members prior to shooting</li> <li>Vertical drop signs are deployed where appropriate</li> <li>The surface of the range should be as level as possible and the outdoor surface weed free. All defects should be identified and rectified as quickly as possible by reporting to range control</li> </ul>	2 x 2 Medium	N	

		<ul> <li>Only essential trailing cables should be used within the range area, when no other viable alternative exists</li> <li>An inspection of the range; must be conducted by the RO prior to any firearms activity within the range starting</li> <li>RO brief to firers to ensure they understand any hazards and controls</li> <li>All range furniture such as moveable barriers should be constructed in a manner that they do not present a risk of falling over or collapsing when in contact with members whilst undertaking shooting</li> </ul>			
10	Access and egress	<ul> <li>Boundary Fencing- a 2.0m perimeter fence has been erected around the RDA</li> <li>Signage - The RDA perimeter fence signs warn/inform the general public of the dangers from unexploded ordnance and that this is a:-MILITARY FIRING RANGE - KEEP OUT. The warning signs and the perimeter fence convey a clear message to the public warning of the dangers</li> <li>Access Control - access to the RDA is controlled in consultation with the MOD. Contractors are instructed to report to Range Office to gain access to the ranges or range danger area. Where appropriate they receive a briefing or read and collect safety information</li> <li>Range Officer maintains control of all movement and activity</li> <li>Movement on the range (falling back) is coordinated and controlled by the RO and/or NSC Safety Staff</li> <li>Live firing Boards are deployed to indicate safety demarcation lines</li> <li>RO is responsible for observing range</li> <li>Access across range highlighted by deployment of range safety boards</li> <li>Access to butts controlled by NSC Range Control</li> <li>Authorised users are aware of the hazards associated with gallery range construction</li> <li>All NRA staff have received training regarding access in to the RDA</li> </ul>	1 x 2 Low	N	

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Rank/Grade:	Range Services Manager	Rank/Grade:	
Signature:		Signature:	