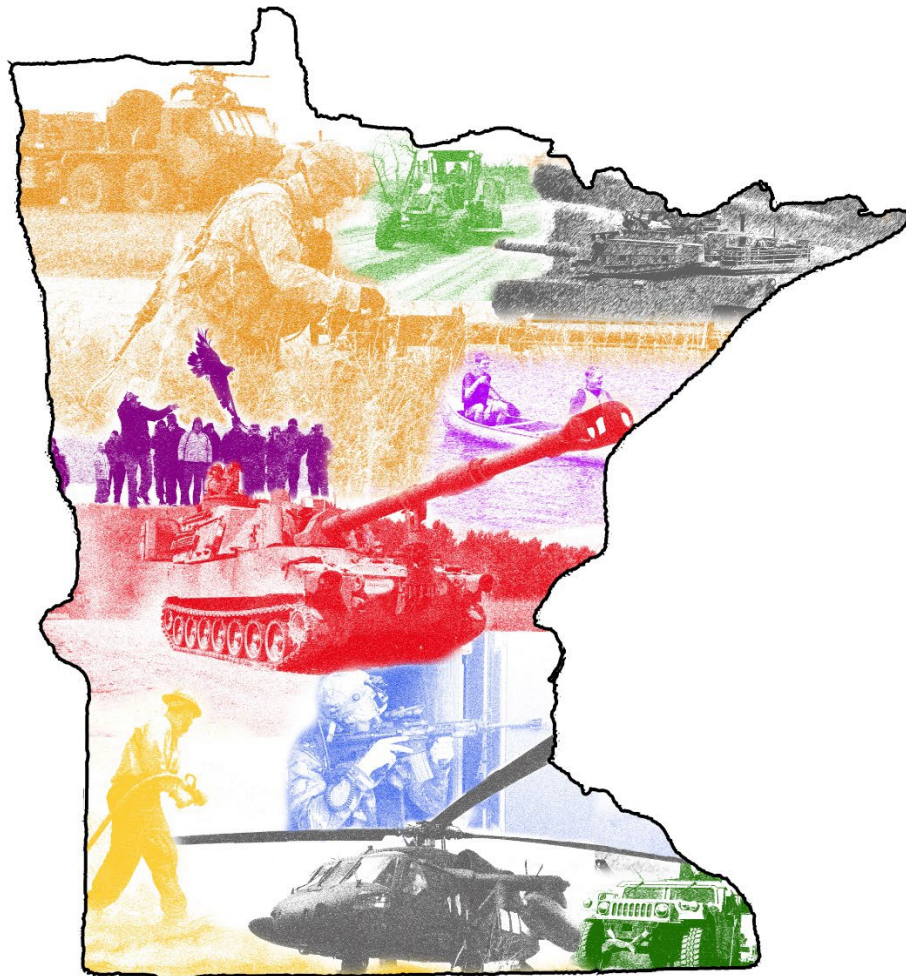


**“The Warriors Choice”**  
**BG Lowell E. Kruse, Senior Commander**



**UNCLASSIFIED**

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**State of Minnesota  
Department of Military Affairs  
CAMP RIPLEY TRAINING CENTER  
Little Falls, MN 56345**

This Regulation is a summary of policies and procedures set forth by AR 385-63, DA Pamphlet 385-63, NGR 385-63, AR 385-64, DA Pamphlet 385-64, TC 25-8, and any other Regulations pertaining to the use and operation of the Field Training Area, Live-Fire ranges, Non-Live Fire ranges, and ammunition usage in the Installation. All persons entering the Field Training Area are subject to the regulations set forth in this document.

Violations of this Regulation by persons subject to the Uniform Code of Military Justice will be prosecuted there under. Any other persons who violate this Regulation may be prosecuted by administrative action by the Senior Installation Commander or other appropriate military or civilian authority.

//////////SIGNED\\\\\\\\\\\\\\  
LOWELL E. KRUSE  
Brigadier General, MNARNG  
Senior Commander

Signed on:  
21FEB23  
Signed copy is on file at Range Control

## SUSPENSE DATES

Suspense	Description	Page Reference
90 DAYS	Request All Installation Facilities usage in RFMSS	Pg. 10, Para 1-6.a.
90 DAYS	For all Un-Established Ranges, DEMO Ranges, Bridging Operations, and Live-Fire Exercises: OPLANS / DEMO Plans & Wiring Diagrams / Target Scenarios & Target Matrices / Risk Management Worksheets MUST be submitted to Range Control.	Pg. 10, Para 1-6.d.
90 DAYS	Submit Mechanical Dig Permit Request Form to the Training Area Coordinator (Range Control).	Pg. 68, Para 18-13.a.
30 DAYS	Coordinate usage of Riot Control Agents with Range Control.	Pg. 54, Para 13-2.j.
30 DAYS	Coordinate aerial disbursement of Chemical Agents with Range Control.	
72 HOURS	Request Range/Training Area/Weapon System changes or Range/Weapon System additions with Range Control. Submit an Exception to Policy Request if changes or additions are absolutely necessary within 72 hours must be signed by an O5 or higher. No signature delegation is authorized.	Pg. 10, Para 1-6.e.
72 HOURS	Military units are required to utilize SINCGARS as their Primary form of communication with Range Control. An Exception to Policy Request must be submitted by the Unit Commander to Range Control NLT 72 hours prior to Range/Training Area usage. All means of acquiring SINCGARS capability must be attempted prior to authorizing the use of 800 mhz radios.	Pg. 14, Para 1-14
72 HOURS	Request changes to Automated Range Scenarios with Range Control and ATS.	Pg. 10, Para 1-6.e.
72 HOURS	Conduct a Walk-through of Platoon level and above, Non-Standard LFXs or CALFEXs, with Range Control OIC or NCOIC.	Pg. 63, Para 17-1.b.
48 HOURS	Coordinate NVD Drivers Training with Range Control.	Pg. 12, Para1-11
48 HOURS	Submit Range Control Vehicle Pass Exception to Policy Request.	Pg. 11, Para 1-8.a.
48 HOURS	Submit White Light Exception to Policy Request.	Pg. 12, Para 1-11.a.
48 HOURS	Coordinate the blocking of roads and trails with Range Control.	Pg. 14, Para 1-12.f.
48 HOURS	Request the usage of Smoke Generator and/or Smoke Pot.	Pg. 55, Para 13-5
48 HOURS	Coordinate NVD Driver Training if it is not being conducted on the EVOC or on DT-1/DT-2/DT-3 Ranges.	Pg. 12, Para 1-11.c.

## **2023 Summary of Major Changes**

- 1) Military references have been updated and added where applicable throughout.
- 2) SUAS policy and procedures updated to reflect US Army Aviation Safety Requirements.
- 3.) Updated Mortar live fire OP requirements.
- 4.) Updated Annex C Medical Requirements.
- 5.) Updated M1122 artillery round restrictions.
- 6.) Added guidance for Ice Diving Operations.
- 7.) Updated Fishing and Environmental Guidance
- 8.) Updated SUAS accident reporting guidance.

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# Chapter 1

## General Information

### 1-1. Purpose

a. The Camp Ripley Range Regulation is published to establish safe, uniform policies and procedures applicable to the proper use of range facilities and training areas in the Field Training Area (FTA).

b. The provisions of this regulation apply to all personnel, military or civilian, utilizing or occupying any portion of the FTA, to include airspace. Personnel utilizing any training facility must comply with this publication, and become familiar with AR 385-10 The Army Safety Program, DA Pamphlet 385-10 Army Safety Program, AR 385-63 Range Safety, DA Pamphlet 385-63 Range Safety, AR 385-64 U.S. Army Explosives Safety Program, and DA Pamphlet 385-64 Ammunition and Explosives Safety Standards.

**NOTICE - Any unit, person, organization, agency, or club that willfully violates a policy or procedure included in this Regulation or any of the referenced publications below will be suspended from Installation training and/or punished under the Uniform Code of Military Justice (UCMJ) or Minnesota Statutes.**

### 1-2. References

AR 385-10, DA Pamphlet 385-10 AR 385-63, DA Pamphlet 385-63, NGR 385-63, AR 385-64, DA Pamphlet 385-64, NGR 385-63, NGR 385-64, AR 350-19, TC 25-8, ATP 5-19, Camp Ripley Garrison Regulation, and any other referenced publications.

### 1-3. Responsibilities

Commanders of Units and all Civilian entities will comply with guidelines established in AR 385-63, DA Pam 385-63, and this publication, regarding the functions of appropriate and safe range operations. The following is a list of personnel, and their responsibilities, for safe range operations.

#### a. The Senior Commander

1) Prohibits use of alcohol and controlled substances in the FTA, and can prohibit any individual under the influence of alcohol or controlled substances entrance into the Installation.

2) Ensures that ammunition and explosives not expended during training are returned to the Ammunition Supply Point (ASP), in the original packaging, when firing is completed or as directed by local policy.

3) Ensures that an aggressive education program on the dangers of Dud ammunition and other UXO items is implemented.

#### b. Operations Officer

1) Serves as the unit's initial POC for all information relating to Camp Ripley.

2) Serves as the POC for all scheduling activities.

3) Represents the Senior Commander in all matters pertaining to the control and access of ranges and training areas.

4) Is the Post Incident Control Officer.

#### c. Range Control Officer

1) Serves as the central point for control and coordination of all activities conducted within the Installation Field Training Area (FTA) to ensure safety and unified operations.

2) Withdraws or suspends Installation FTA privileges from any person, organization, agency, or club that willfully violates regulations and/or procedures listed in DA Pamphlet 385-63 or this regulation; or from any person whose ability, or conduct, is incompatible with the safe use of government range structures and facilities.

3) Responsible for providing safe training environments by ensuring all Weapon Danger Zones (WDZ) and Surface Danger Zones (SDZ) are identified, and all control measures are employed.

4) Publishes a Range Bulletin for Camp Ripley at least 24 hours prior to any scheduled firing. The Range Bulletin is available at Range Control, Bldg. 24-199, and at the Camp Ripley Operations Office, Bldg. 8-1. It will include the following items:

- (a) Where firing is going to be conducted.
- (b) The scheduled time firing begins and ends each day.
- (c) The boundaries of all SDZs, WDZs, and Air Drop Danger Zones (ADDZs), and UAS/SUAS

Restricted Operations Zones (ROZs).

5) Displays and updates the following information:

- (a) Range Maps
- (b) Overlays
- (c) Firing Data
- (d) Opening and closing of Training Areas (TA), and Bivouac Sites.
- (e) SDZ, WDZ, ADDZ, and ROZ information for the current day, plus the next three training days.

6) Monitors the following SINCGARS radio frequencies reserved exclusively for CRTC Range Control:

- (a) Primary Frequency is 36.100 (Single Channel/Plain Text)
- (b) Alternate Frequency is 40.400 (Single Channel/Plain Text)

d. Liaison Officer (during AT Periods only)

1) Using Units will appoint a Liaison Officer (normally the S-3) to coordinate with Range Control and other Units.

2) Serves as unit POC for all activities in the field training area.

3) The Liaison Officer represents the using units in all matters pertaining to range firing and training area usage.

4) The Liaison Officer will understand the responsibilities of, and will work closely with, the RCO and Training Area Coordinator (TAC).

5) Attend the Range Control Annual Training Daily Coordination Meeting (held at 0830 May through August) to discuss resources and scheduled training. The Liaison Officer must be prepared to discuss training up to four days in advance.

e. Training Area Coordinator (TAC)

1) The individual designated by the Range Control Officer for the opening and closing of training areas/bivouac sites, and other assigned duties.

2) Clears training areas and bivouac sites with the Liaison Officer, or other appointed personnel.

3) Maintains a list of training areas and bivouac sites being used by organizations in the field.

4) Maintains a list of restricted areas.

5) Keeps activity and training area maps current at the Range Control Office.

f. Battalion/Squadron Commanders

1) Comply with the Installation procedures for the certification of Unit OICs, RSOs, and Laser Range Safety Officers (LRSOs).

2) For Commanders of Field Artillery Battalions, establish and maintain an Artillery Safety Training and Certification Program to train and qualify personnel in safety procedures for their specific areas of responsibility.

3) Ensure that personnel who have not completed Annual Qualification and Certification Training are **NOT** appointed as an OIC or RSO.

4) Integrate Risk Management into all range operations.

g. Unit Commanders

1) Ensures compliance with DA Pamphlet 385-63, NGR 385-63, this Regulation, and any applicable TMs, FMs, MWCPs (Marine Corps), TCs, and SOPs for safe training and firing for each weapon system within the command.

2) Ensures that all personnel within the command are briefed on and comply with the Installation range procedures and safety requirements, including the use of required Personal Protective Equipment (PPE).

3) Designates an OIC and RSO for each firing and/or maneuver exercise in accordance with DA PAM 385-63 Table 1-1 (See Page 17). Cadets, Officer Candidates, WOCs, are not authorized to be OICs and RSOs on any Camp Ripley live-fire range.

4) Ensures that personnel performing the duties of OIC and RSO are certified IAW the established Installation Safety Certification Program.

5) Complies with the range safety certification program guidance for OICs and RSOs, to ensure that they are:

(a) Competent and properly instructed in the performance of their duties.

(b) Knowledgeable in the weapon systems for which they are held responsible, and in safe ammunition handling and use procedures.

6) Develops a SOP for laser operations, to include a provision for immediate medical attention for personnel who incur eye or other overexposure to laser energy, and reporting laser overexposure incidents IAW AR 385-40, TB MED 524, MIL-HDBK 828C, and MCO 5104.1c.

7) Applies risk management, and develops controls and procedures for all phases of training events.

h. Range Officer in Charge (OIC)

1) Must meet Grade/Rank requirements of DA PAM 385-63 Table 1-1 (see page 17).

2) Must be Weapon Safety Certified IAW Paragraph 1-4.

3) Must attend a Range Safety Briefing at the Range Control Office prior to scheduled use of a range. The briefing is valid for a period of ninety days.

4) The only person authorized to open and close the range with Range Control. MUST be on the range at all times while the range is in an "Open" status.

5) Ensures that required communications are established and maintained.

6) Will not be assigned any additional duties while the range is open.

7) Ensures the overall safe conduct of training and proper use of the range.

8) Ensures that the RSO is physically present on the range at all times.

9) Determines when it is safe to fire IAW applicable regulations and Installation range requirements.

10) Ensures proper supervision of personnel performing misfire, hang-fire, and cook-off procedures.

11) Ensures safe laser operations.

12) Ensures that adequate medical support is available and they are properly equipped.

13) Ensures that ammunition and explosives are properly handled, transported, stored, and accounted for within the FTA from the time of receipt to the time of expenditure or turn-in.

14) Ensures plans for firing exercises and maneuvers are coordinated with Range Control.

15) Ensures control of the target areas to prohibit entry by unauthorized personnel.

16) Ensures all ammunition malfunctions and accidents are reported to Range Control IAW AR 75-1 and AR 385-40.

17) Ensures that Range Control has authorized the entrance of any Civilian personnel into the FTA.

18) Briefs the RSO on the duties to be performed in support of the training event. Clearly establish the requirement for the RSO to brief the OIC on the safety of the range and the unit, and the readiness to commence live-fire operations prior to the start of firing.

19) Implements risk management in all phases of the training event.

20) Ensure they have the current days Range Bulletin on hand at the range.

**NOTICE: The OIC and RSO must be present on the range while the range is in an "Open" status.**

i. Range Safety Officer (RSO)

1) Must meet Grade/Rank requirements of DA PAM 385-63 Table 1-1 (see page 17).

2) Must be Weapon Safety Certified IAW paragraph 1-4.

3) Must attend a Range Safety Briefing at the Range Control Office prior to scheduled use of a range. The briefing is valid for a period of ninety days.

4) Ensures that weapons and personnel are properly positioned.

5) Ensures that only authorized ammunition and explosives, to include proper charge, fuze, and fuze settings are being used.

6) Ensures firing settings and weapons systems are within prescribed safety limits and are verified.

7) Ensures that the range SDZ is clear of all unauthorized personnel.

8) Ensures that all are briefed on and comply with the Installation range procedures and safety requirements, including the use of required Personal Protective Equipment (PPE).

9) Ensures that Range Control has approved an "Open" status for the range. Will be on the range at all times while the range is in an "Open" status. Will not be assigned any additional duties while the range is open.

10) Prior to commencing live-fire operations, conducts final coordination with the OIC. This coordination will include a summary of checks, inspections, and actions that the RSO has completed, and verifies that the required communications are established.

11) Orders an immediate cease-fire when any unsafe condition occurs.

12) Reports all accidents, weapon malfunctions, and ammunition malfunctions to the range OIC.

13) Verifies, upon completion of firing or firing order, to the OIC that all weapons and weapon systems are clear and safe before allowing the removal of weapons from the firing area.

14) Ensures that road guards are in place (when applicable) and have communications with the range OIC.

15) Properly briefs Assistant Range Safety Officers ARSO(s) (Line Safeties) on their duties.

j. Assistant Range Safety Officer(s) (ARSO) (Line Safeties)

To maximize range operations efficiency, it is suggested that units plan to have one (1) ARSO (Line Safety) for every two (2) firing lanes. One ARSO (Line Safety) should not cover more than four (4) firing lanes.

1) Assist the RSO as directed by the OIC and/or RSO. Primary duty is to ensure that weapons are clear and on "Safe" when Firers enter and exit the Firing Line.

2) Are not required to be Commander Safety Certified, or to attend the Range Control Safety Briefing.

3) Must be knowledgeable on correct weapon misfire and malfunction procedures.

k. Medical Personnel

1) All medical support personnel MUST be current with their appropriate Certifications.

2) The senior medical person from the organization will attend the Range Control Safety Briefing, then brief their subordinates.

3) All medical aid personnel must know the location of the closest Improved Landing Area (Heli-Pad) to the range they are supporting.

4) Medical Support personnel must have an aid bag or equivalent, litter, and a dedicated medical evacuation vehicle with litter carrying capability on each range or firing point. This medical aid person and vehicle are not to be utilized for any additional duties (they are authorized to perform the hourly comms checks for the OIC).

5) Military Aid Bag must be stocked per unit MTOE List/Supply Catalog.

6) Medical vehicle must have an operating radio with communication capabilities to Range Control, and a Camp Ripley map.

7) If the dedicated medical aid person or vehicle leaves the range for any reason, the range must request a "Check-fire" status from Range Control until the Medic returns, or a replacement is on site.

8) The Range Specific Medical Support Requirements List (Appendix C to this regulation) is located in the Range Control SharePoint Shared Documents Library, or contact Range Control at [ng.mn.mnarng.list.crc-range-control@mail.mil](mailto:ng.mn.mnarng.list.crc-range-control@mail.mil).

#### **1-4. Guidelines for Unit Safety Certification Programs**

a. Safety Certification Programs will be used to train and certify personnel in the duties of OIC and RSO for firing exercises and/or maneuver operations.

b. Safety Certification Programs will be integrated into Unit gunnery training programs, combining the unique individual requirements of the Units concerned.

c. Once all requirements of the Safety Certification Program are met, the BN/SQDN CDR (O-5 or O-4P) will certify the OICs and RSOs utilizing the Commander's Safety Certification Memorandum. **This Certification is valid for one (1) year. A copy must be sent to Range Control.**

**NOTICE: Units not having a Battalion/Squadron Commander must obtain certification from an O-5 (O-4 (P) in an O-5 command position) or higher, within their Chain of Command.**

d. Prior to range operations, personnel designated as OIC and RSO will receive a Range Safety Briefing from Range Control. **This Briefing is valid for a period of ninety (90) days.**

e. The Range Control Officer will monitor the effectiveness of Unit Safety Certification Programs.

f. The Range Control Officer has authority to revoke Certification of any OIC or RSO for violating the requirements of AR 385-63, DA Pam 385-63, NGR 385-63, or this Regulation.

### **1-5. Accident and Incident Reporting**

a. All accidents and incidents will be reported in accordance with procedures outlined in AR 385-40 Accident Reporting and Records.

b. All accidents and incidents that occur anywhere in the Field Training Area (FTA) will be reported to Range Control immediately by SINCGARS radio (36.100 primary, 40.400 alternate), 800 mhz radio, or by telephone 320-616-3137/3134, 320-412-6075 utilizing the CRTC Accident/Incident Checklist.

c. Malfunctions involving weapons, ammunition, and/or explosives will be reported immediately to Range Control, the CRTC ASP, and to the CRTC QASAS, in accordance with AR 75-1. See also Chapter 3, Paragraph 3-4.

### **1-6. Requesting Ranges and Training Areas (TA)**

CRTC utilizes the Range Facility Management Support System (RFMSS) to schedule all Installation Facilities and Ranges.

a. Units request use of ranges and training areas directly in RFMSS, or by submitting an ATS Form 23 to the Operations Office **NLT 90 days prior** to requested date.

b. The RFMSS Schedulers review, confirm dates, and/or notify the Units of any conflicts.

c. Conflict resolutions will be made by the RFMSS Schedulers as reservations are being entered into RFMSS, or during the daily Range Control Annual Training Coordination Meeting.

d. For ALL un-established ranges, DEMO ranges, and/or Live-Fire Exercises: OPLANS; DEMO Plans with Wiring Diagrams; Target Scenarios; Target Matrices; and Risk Management Worksheets must be submitted to Range Control **NLT 90 days prior** to range usage.

e. Units will not be able to add or change Live Fire Ranges and/or Weapon Systems within 72 hours of range utilization. An Exception to Policy Request must be submitted to Range Control with O5 signature for Change/Addition requests (No signature delegation is authorized).

f. Activities in the FTA are considered unauthorized without an approved usage request (RFMSS Reservation) from Post Operations and/or Range Control.

g. Units must ensure that they have the proper number and type of Medical Support personnel available to support their number of requested downrange facilities.

h. All Military Units will order portable toilets from Supply and Services at 320-616-3130 for all activities scheduled in the Field Training Area, except for those Established Ranges that have a classroom with latrine facilities in them. Civilian Lessees will request portable toilets directly from the vender.

**NOTICE: Alcoholic beverages are NOT authorized in the FTA. For MWR purposes only, an Exception to Policy Request may be submitted to the Range Control Officer, for review and approval or denial.**

**NOTICE: Range Control personnel are authorized immediate access to all FTA facilities. Range Control personnel will not interfere with training unless a safety violation is observed.**

### **1-7. Access to the Field Training Area**

Access Gates are located at the following locations:

"C": Cassino Road at County Highway 1 (UM 8631823156)

"D": Chickamauga Road and Armor Trail (UM 9395105457)

"E": Range Control (UM 9542006908) is **NOT authorized for tracked vehicles**

"F": Ft. Ripley Road north of North Motor Pool Road (UM 9417206306)

"G": Normandy Road at County Highway 1 (UM 8450613526)

"H": Enniskillen Road at County Highway 1 (UM 8609121578)

"I": Yalu Road at the Installation Boundary (UM 8812731293) **Authorized personnel only**

"J": Arno Road at County Highway 1 (UM 8639325168)

"L": Ft. Ripley Road and Armor Trail (UM 93940582)

"M": Old Gravel Pit access trail at County Highway 1 (UM 8633123695)

**NOTE: Keys required for all Gate locks listed above will be issued-out by Range Control. There is a very limited number of keys for each Gate. Issuance will be based on current OPTEMPO level. A replacement fee of \$150.00 (per key) will be charged to the Hand Receipt Holder.**

- a. **Tactical Wheeled Vehicles** may enter and exit the FTA through any Gate listed above except for I Gate, but E Gate is the preferred FTA Entrance Point.
- b. **Tracked Vehicles MUST** enter and exit the FTA through Gates D, or L ONLY. Tracked vehicles will NOT operate on Infantry Road, in any Recreational Areas, or in the designated Winter Training Areas.

**NOTICE: All Non-Tactical Vehicles MUST obtain a Range Control Vehicle Pass prior to entering the FTA. These vehicles MUST clear the FTA prior to the hours of darkness (prior to the need to turn on headlights), unless they are supporting range operations or in possession of a signed and approved Camping Request.**

**NOTICE: During the period 01 November-31 March, ALL PERSONNEL (regardless of the type of vehicle they are operating) will stop in at Range Control to inform the On-Duty Shift SGT about the purpose of the mission, route of travel, and destination of the vehicle(s) utilizing the FTA.**

**NOTICE: With the exception of Law Enforcement personnel, personally owned weapons are not authorized in the FTA. POVs requesting to enter the FTA are subject to random firearms searches.**

### **1-8. Vehicle Passes**

- a. **Privately Owned Vehicles (POVs), Rental Vehicles, and personal ATVs** are restricted from the FTA, except for the following situations:
  - b. Due to a shortage of Unit vehicles, Unit personnel may utilize their POV, rental, GSA, or TMP vehicle to travel between the Cantonment Area and the FTA.
  - c. Woodcutters, anglers, and overnight campers must obtain a Vehicle Pass (one for each vehicle) from the Range Control Office. Overnight campers will coordinate with Range Control for a range safety brief and sign for their key for emergency use only when Range Control office will not be staffed overnight.
  - d. The Range Control Officer may grant exceptions to this policy. The Exception to Policy Request must be submitted **NLT 48 hours prior**.

### **1-9. ATV usage**

- a. Operator PPE Requirements
  - 1) ATVs with Rollover Protection Systems (ROPS): glass enclosed cabs, equipped with seat belts, flashing lights, and headlights on at all times.
  - 2) ATVs without ROPS: equipped with seat belts, Helmet, eye protection, reflective safety belt or vest, and headlights on at all times.
  - 3) Exceptions to these PPE requirements need to be routed through the RCO with appropriate risk mitigation recommendations.
- b. ATV use in Cantonment: Primarily intended for use on road network. Stay off sidewalks and grass areas. Follow all general driving rules. Be aware of turning and lack of turn signal. Utilize appropriate hand signals for turning.
- c. ATVs in the FTA:
  - 1) Military ATVs will be considered tactical vehicles.
  - 2) Personal ATVs are NOT authorized in the FTA.
  - 3) ATVs are PROHIBITED on Armor Trail.

### **1-10. Installation Speed Limits**

Field Training Area:

During Daylight hours: 25 MPH on all roads unless otherwise posted. On one lane roads the speed limit is 15 MPH.

Commanders may submit an Exception to Policy Request, a Risk Management Worksheet, and a Strip Map to the Range Control OIC to increase the speed limit to 35 MPH, during DAYLIGHT HOURS ONLY. This will be considered on a case-by-case basis, per the down range OPTEMPO.

During Nighttime hours:  
MSRs and Main roads: 25 MPH  
All other interior roads and trails: 15 MPH

**NOTE: An Exception to Policy Request may be submitted to the Range Control Officer for a deviation to the Speed Limits listed above, NLT 48 hours prior to the event.**

**NOTE: When approaching personnel on the roadside, slow down to 15 MPH or less, dependent on road and weather conditions.**

#### **1-11. White Light Usage Policy**

a. **MSRs and Main Roads:** White Light usage is **required** at night. This includes the direct route (Champagne Road, South Gettysburg Road, and Argonne Road) between Range Control and the A-Complex Ranges. An Exception to Policy Request may be submitted to the Range Control Officer **NLT 48 hours prior**. See the map on Page 13.

b. **All other interior roads and trails:** White Light usage is prohibited from use in the FTA during periods of darkness, with the exception of emergency vehicles involved in emergency situations. An Exception to Policy Request may be submitted to the Range Control Officer **NLT 48 hours prior**.

c. **Night Vision Device (NVD):** Drivers Training will be coordinated through Range Control **NLT 48 hours prior**, if the training is not being conducted on the actual Driver Training Ranges 1-3 or the EVOC. The Unit must have a Certified and Licensed Instructor on site per AR 600-55.

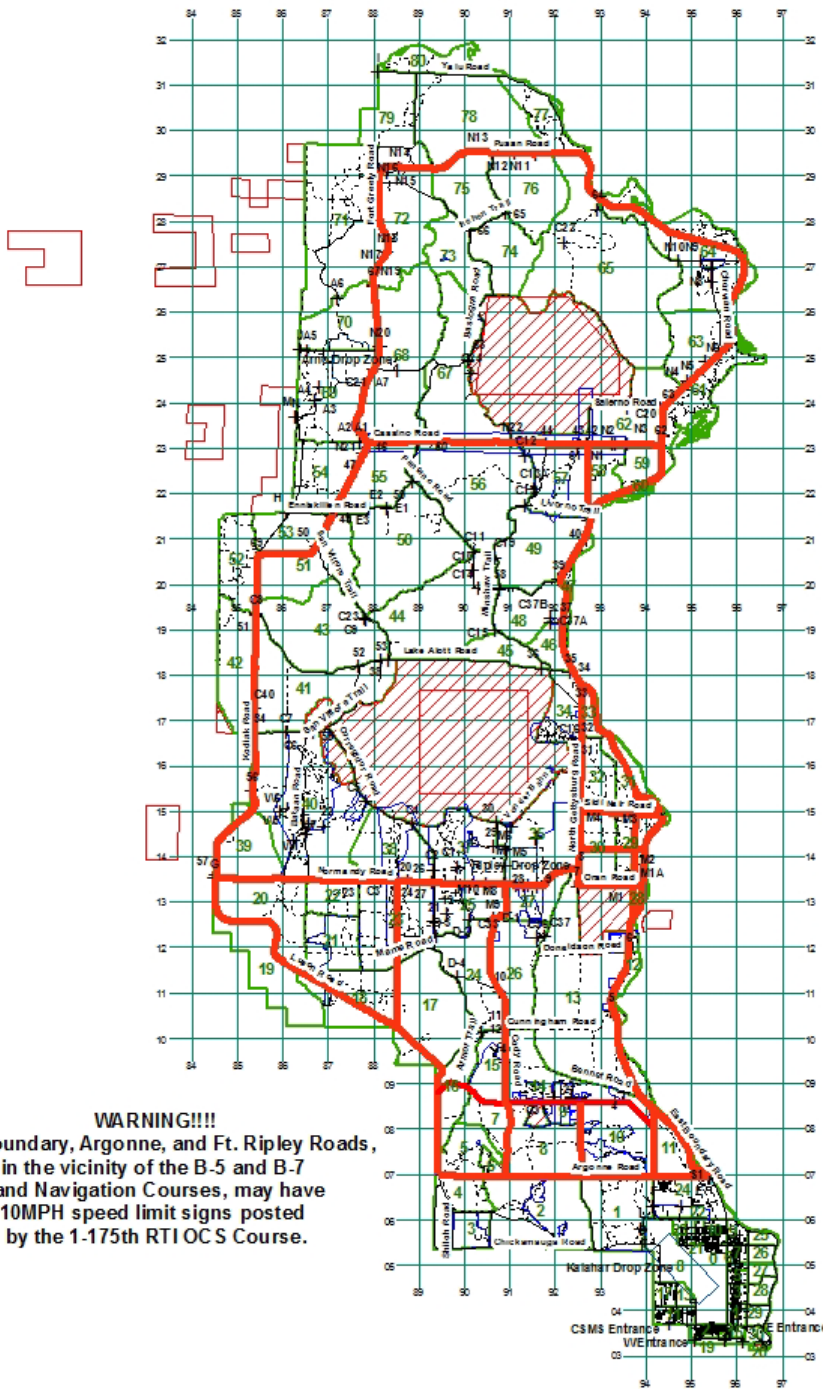
**NOTE: Range Control reserves the right to make daily changes to this policy, to accommodate changes to specific Unit training requests.**





### Authorized White Light Roads

Map Scale = 1:125,000



**WARNING!!!**  
East Boundary, Argonne, and Ft. Ripley Roads,  
in the vicinity of the B-5 and B-7  
Land Navigation Courses, may have  
10MPH speed limit signs posted  
by the 1-175th RTI OCS Course.

## 1-12. Occupying and Opening Training Areas

**NOTE: Training Areas ARE REQUIRED to be Opened, Closed, and Cleared by Range Control.**

- a. The Unit POC for a TA(s) is required to attend a Range Control Safety Briefing.
- b. POC obtains a Basic Range Packet which contains a RC Form 18 Training Area Opening/Closing Checklist. If the POC is in charge of more than one TA, report all TAs being utilized.
- c. From the TA, the POC sends Range Control the Opening data to receive an Opening time. When entering a TA, immediately report existing maneuver damage or litter to Range Control. Failure to do so will result in the occupying Unit being held responsible for the damage and litter.
- d. The POC is responsible for sending the daily Personnel and Vehicle Utilization Data of each TA to Range Control prior to **2330 DAILY**. Range Control is required to enter this data into RFMSS prior to running the RFMSS End of Day Procedures at 0001 hrs local time.
- e. Due to TA Land Reclamation projects, the Camp Ripley Environmental Section may close a whole TA, or portions thereof. Units must not enter a Closed Area. Closed Areas will be posted.
- f. Coordinate the blocking and unblocking of any roads or trails with Range Control **NLT 48 hours prior**.

## 1-13. Closing and Clearing Training Areas

Prior to departing TA(s):

- a. Conduct a thorough police call of the area(s) within the TA that were utilized. Remove all garbage, trash, and other debris from the field, and dispose of it at the Transfer Station located near Range Control.
- b. Blank Brass **MUST** be returned to the ASP.
- c. Fill in all fighting positions and restore the area to its original appearance.

**NOTICE: Do not use logs or trash as filler material when filling in any type of fighting position.**

**NOTICE: It is prohibited to leave human waste on the surface of the ground.**

- d. Remove all types of wire and pickets.
- e. Remove and disassemble position barriers. Reopen all roads and trails.
- f. Utilizing the **CLOSING** portion of RC Form 18, send Range Control the requested information. Range Control will schedule a TA Clearance time with the Unit POC.

## 1-14. Communications

Range Control operates the following means of communications:

**NOTICE: Military Units are REQUIRED to utilize SINCGARS as their Primary form of communication. Unit Commanders may submit an Exception to Policy Request NLT 72-hours prior to Range/Training Area usage to the Range Control Officer for review and approval. All means of acquiring SINCGARS capability must be attempted prior to receiving authorization.**

- a. Primary:
  - 1) SINCGARS: Primary-36.100
  - 2) SINCGARS: Secondary-40.400
  - 3) 800 MHz
- b. Secondary:

Commercial phone: 320-616-3137/3134  
Cell: 320-412-6075

**NOTICE: If one form of communication with Range Control is lost, immediately CHECK-FIRE the range until full communication capabilities are restored. If both forms of communication are lost, immediately CEASE-FIRE the range until full communication capabilities are restored.**

c. Additional Information:

1) All Units utilizing the FTA facilities **are REQUIRED** to have two operating means of communication with Range Control at all times.

2) Cell phones are only authorized to be a secondary form of communication.

3) Cell phones must be turned on at all times.

4) Communications with Range Control will be made in the clear. Do not use Unit SOI (or “Hollywood”) Call Signs. Call signs are based upon training area or range being occupied.

5) Unit internal communications are NOT authorized on any Range Control frequency.

d. Live Fire Ranges/Simunitions/Non-Lethal Ranges

1) Contact Range Control via the primary form of communication, upon occupation of, and departure from, the ranges.

2) Request permission from Range Control to open, close, change OIC/RSO data, or change in firing status of the range on the primary form of communication only.

3) Continuously monitor the primary form of communication.

4) Perform Hourly Radio Checks (**EVERY HOUR, ON THE HOUR**) while the range is “Open”.

5) Immediately Cease-Fire if communications with Range Control are lost.

e. Non-Live Fire Ranges:

1) Request permission from Range Control to open and close the range on a primary form of communication only.

2) Continuously monitor the primary form of communication while the range is “Open”.

f. Observation Posts (OP):

1) Request permission from Range Control to open, close, or change the status of the OP on the primary form of communication only.

2) Continuously monitor the primary form of communication.

3) Perform Hourly Radio Checks (**EVERY HOUR, ON THE HOUR**) while performing Call-for-Fire missions. After the completion of fire missions, the OP will revert to a Non-firing range status.

4) Immediately Cease Fire if communications with Range Control are lost.

g. Communications Antenna Masts

Twelve masts with antenna heads are permanently erected at various locations throughout the Installation to extend radio communications capabilities. Report any operating deficiencies to Range Control immediately. Map available from Range Control upon request.

**Antenna Mast Locations**

MAST NUMBER	LOCATION	COORDINATES	MAST NUMBER	LOCATION	COORDINATES
Z-2	A-1	UM 91990868	Z-9	Training Area 54	UM 87102204
Z-3	Training Area 61	UM 95082437	Z-10	Training Area 40	UM 85381612
Z-4	Y-4 TTB	UM 95162684	Z-11	OP-1	UM 91001464
Z-5	ISBC (CLSRM)	UM 88182891	Z-13	CLFX AA (TA58)	UM 92912305
Z-6	Training Area 69	UM 86802508		A-12 Tower	UM 92640873
Z-7	OP-16	UM 90142468		Retrans Site	UM 92411454
Z-8	DEMO-5	UM 89652713			

### **1-15. Declination Stations**

All aiming circles must be declinated prior to use, when laying indirect fire weapon systems. Camp Ripley has three declination stations:

a. STATION 1-UM 95780531

Located in Cantonment Area 8, in front of the MUTF (TMC).

b. STATION 2-UM 88022470

Located in Training Area 68, southeast of the intersection of Kodiak Road and Easy Street.

c. STATION 3-UM 884113

Located on the east side of Firing Point 2 on J Range.

### **1-16. Severe Weather**

Range Control will disseminate all Severe Weather Watches and Warnings published for Morrison County by the National Weather Service on all Range Control frequencies. During inclement weather, the Unit Commander will decide when to institute protective measures. Range Control personnel will open all unoccupied range classrooms to provide shelter for everyone downrange that are not on a range with a hardened structure. Range Control and/or the Automated Tower Operators have the authority to stop all firing due to the approach of an electrical storm.

### **1-17. Maps**

a. Unit Supply personnel can order the Camp Ripley Military Installation Map, Edition 003, Series V772S, Sheet CPRIPLEMIM, Scale 1:50000 (NSN 7643014485151).

b. The CRTC Environmental Department produces a 1:50,000 scale Installation Map for distribution, upon request. A 1:25,000 scale Installation Map is also available, upon request.

c. Units may request customized maps on a limited basis for any Camp Ripley Range or Training Area from Range Control or the CRTC Environmental Department.

### **1-18. Physical Fitness**

a. Physical fitness allowed downrange is at the discretion of Range Control.

b. Physical fitness only allowed downrange while Range Control is staffed.

c. Anybody wanting to conduct physical fitness training downrange **MUST** stop in to Range Control to gain access and receive restrictions and instructions.

d. Viking trail is authorized for running, mountain biking (when no snow is present), and cross-country skiing up to Cody Road.

e. Thull Road is authorized for running and mountain biking.

f. EVOC may be used for physical fitness if it is not reserved in RFMSS by a unit.

**DA PAM 385-63 Range OIC and RSO Appointment Requirements Table 1-1**

<b>Table 1-1 Officer In Charge and Range Safety Officer Appointment Requirements</b>						
<b>Weapon system</b>	<b>OIC<sup>1</sup></b>			<b>RSO<sup>1</sup></b>		
	<b>OFFICER</b>	<b>WO</b>	<b>NCO</b>	<b>OFFICER</b>	<b>WO</b>	<b>NCO</b>
Practice hand grenades; sub-caliber training devices; laser devices; firing devices; simulators and trip flares; small arms and machine guns; (over-water/ice crossing operations <sup>7</sup> )	X	X	E-6	X	X	E-5
Chemical agents and smoke <sup>2</sup>	X	X	E-5	X	X	E-5
Aerial gunnery and air defense weapons; live grenades, grenade launchers, and grenade machine guns; live mines & demolitions; tank and fighting vehicle cannons	X	X	E-7	X	X	E-6
Field Artillery <sup>3</sup>	X	X	E-7	X	X	E-6
Mortars	X	X	E-6	X	X	E-6 <sup>4</sup>
Air defense artillery rockets and guided missiles	X	X		X	X <sup>5</sup>	
Direct fire antitank rockets and missiles	X	X	E-7	X	X	E-6
Live-Fire Exercises using organic weapons, squad through company, battery, troop	X	X	E-7	X	X	E-6
CALFEX/CAX using outside fire support, battery, troop, battery, squad, platoon, company; or battalion and larger <sup>6</sup>	X	X	E-7	X	X	E-6
Blanks (see NOTE 3 below)	X	X	E-5	X	X	E-5
EVOC <sup>7</sup> A15 FLRC <sup>7</sup> A6 Confidence Course <sup>7</sup>	X	X	E-6	X	X	E-5
Rappel Tower (see NOTE 2 below)	X	X	E-7	X	X	E-5

**NOTE 1: ROTC Cadets, OCS students, and WOCs are not authorized to perform the duties of OIC and RSO on any live-fire ranges.**

**NOTE 2: Rappel Tower OIC/RSO requirements, per TC 21-24, dated 09 JAN 2008:**

a. Ground and Wall-side Tower Rappelling: A fully qualified Rappel Master Safety Officer (E-7 or above) or civilian accepted certifications outlined in Para 2-10 may act as the range OIC. The Rappel Lane NCO (E-5 or above) will be the range RSO.

**NOTE 3: This is a NGR 385-63 Range Safety requirement**

**Footnotes:**

<sup>1</sup> Civilians in the grade of GS-07 and above, or equivalent, may act as OIC; GS-05 and above, or equivalent, may act as RSO.

<sup>2</sup> For the Marine Corps, OIC and RSO must be E-4 and above and be chemical, biological, radiological, and nuclear (CBRN) MOS 5702/5711 when conducting CBRN or smoke training. For the Army, OIC and RSO must be CBRN qualified when conducting CBRN and smoke training.

<sup>3</sup> Use of E-7s as OICs is authorized only when approved by the senior commander (Army)/installation commander (Marine Corps). Either the battery executive officer or the platoon leader normally performs duties of the RSO.

<sup>4</sup> RSO for the Marine Corps can be E-5 for mortar training activities.

<sup>5</sup> SRO will be a CW3, CW03, or higher or civilian in the grade of GS-11 or above.

<sup>6</sup> For battalion or larger CALFEX/CAX, OIC will be a field grade officer; exercise RSO will be E-7 or above.

<sup>7</sup> CRTS specific requirements.

## Chapter 2

### Ranges

#### 2-1. Restricting Access to Impact Areas

- a. Unauthorized persons are prohibited from entering the Installation FTA. The Range Control Officer is the approval authority for entry onto the ranges and maneuver areas, and into any impact area.
- b. Unauthorized persons are prohibited from entering Impact Areas and other areas known, or suspected, to contain UXO by use of positive controls, to include fencing and UXO hazard warning signs.
- c. Personnel who must enter an Impact Area will be thoroughly briefed on the hazards of UXO, and accompanied by Range Control personnel.
- d. Personnel access to Impact Areas will be limited to qualified EOD personnel, Range Control staff, and range maintenance personnel designated by the Range Control Officer.
- e. Unauthorized personnel are prohibited from handling UXO and munitions, or removing them from the FTA. Procedures (for example, amnesty boxes) will be established for turn-in of ammunition and explosives items by unauthorized personnel.
- f. All approaches to Ranges and Impact Areas will be guarded by Gate Guards, who are properly instructed in their duties, or closed off by appropriate barriers, as determined by the Range Control Officer. When barriers are used, appropriate signage will be posted on them.

#### 2-2. Warning Signs, Barriers, and Markers

- a. Barriers are erected to protect personnel from accessing danger areas. Barriers will be used to block roads, trails, and other possible access points into danger areas. They will remain in place when firing is in progress. Range Control and/or Unit Commanders will take prompt disciplinary action against personnel who breach barriers.

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#### **MN Statute 609.396. UNAUTHORIZED PRESENCE AT CAMP RIPLEY.**

Subdivision 1. Misdemeanor.

A person is guilty of a misdemeanor if the person intentionally and without authorization of the adjutant general enters or is present on the Camp Ripley Military Reservation.

Subdivision 2. Felony.

A person is guilty of a felony and may be sentenced to not more than five years imprisonment or to payment of a fine of not more than \$10,000, or both, if:

- (1) the person intentionally enters or is present in an area at the Camp Ripley Military Reservation that is posted by Order of the Adjutant General as restricted for weapon firing or other hazardous military activity; and
- (2) the person knows that doing so creates a risk of death, bodily harm, or serious property damage.

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b. Barrier and Impact Area violations will require the following corrective actions:

- 1) Immediate Cease-Fire of affected Training Areas, Ranges, and Firing Points.
- 2) Range Control personnel will physically check affected area, and detain any violators until a written statement describing the incident is obtained.
- 3) The Unit Commander will be notified, and must submit a written CRTC Accident/Incident Report to the Range Control Officer. The Range Control Officer is authorized to establish additional perimeter and/or interior guard positions at any time.
- 4) The Range Control Officer will lift the Cease-Fire upon notification that all affected SDZs have been cleared.

c. The RSO will post interior range guards (as required) at specified ranges/firing points, or at the direction of the Range Control Officer.

d. Units will display a red flag during daylight hours and a blinking red light at night, or during reduced visibility, in a prominent place.

e. Established ranges are equipped with flagpoles to display range flags and blinking lights on.

- f. Non-established ranges will display the flag and light at the entrance to the range, in plain view of the roadway.
- g. Vehicles must display proper flags/lights to show the vehicle's weapon status IAW the appropriate FM.

**NOTICE: SAFETY PADDLES AND/OR VEHICLE FLAG SETS AND LIGHTS ARE REQUIRED RANGE OPERATIONS SAFETY EQUIPMENT.**

**2-3. Range Use by Non-Military/Civilian Agencies**

- a. Use of Ranges and Training Areas by Civilian Agencies is authorized.
  - 1) Procedures for requesting use are outlined in the CRTC Post Regulation, available through the Camp Ripley Operations Office, located in Bldg. 8-1. Telephone number is (320) 616-2708. All leasing costs and requirements are available in the same document.
  - 2) The Civilian Agency Supervisor, or a subordinate in charge of training, will appoint in writing an OIC and RSO for each live fire range requested. This appointment must specify that the individual is safety certified for the specific weapon(s) to be used.
  - 3) If a Civilian Agency has no certifying official, the Completion of a National Rifle Association Instructor Course or equivalent, is approved for any individual performing the duty of OIC and RSO on small arms ranges.
    - (a) The following are equivalent course model programs that are approved by Range Control:
      - (1) DNR Firearms Instructor Courses
      - (2) State of MN Firearms Instructor Courses
      - (3) Police Officer Firearms Instructor Courses
    - (b) All other equivalent course certification(s) (excluding above-mentioned courses) will be submitted to Range Control in advance of range use, for review and approval. Equivalent Course POI's should have covered at a minimum the following:
      - (1) Range Operations & Organization
      - (2) Range Communications
      - (3) Medical Support and Equipment
      - (4) Weapon misfire procedures
- b. The Operations Officer must approve all Civilian access to the FTA.
  - 1) Civilian personnel, such as military family members, and the local populace, must receive authorization from the Operations Officer to enter the FTA to participate in, or observe capability exercises, firepower demonstrations, training courses, competitions, or other types of exercises. Such personnel will remain in designated safe areas as determined by the Range Control Officer.
  - 2) Inspection Team members or other official observers required to be on the firing line, firing position, or firing area, as an exception to policy, will position themselves in safe areas, as determined by the Range Control Officer.
  - 3) Civilians, to include family members and DOD Civilians, must have approval from the Range Control Officer to fire weapons within the FTA per DA Pamphlet 385-63.

**2-4. Special Use Airspace (SUA) ZMP R-4301**

- a. FAA SUA Order JO 7400.8X, dated 16 FEB 2015, page 75, describes the Special Use Airspace (ZMP R-4301) for Camp Ripley. Minneapolis Air Route Traffic Control Center controls this SUA. Miller Army Airfield (MAAF) Air Traffic Control personnel are the CRTC ATC Representatives.
- b. Upon notification from the MAAF Control Tower, Range Control places affected Live-Fire Ranges in a Check-Fire Status.
- c. MAAF Control Tower will notify Range Control that all aircraft have departed the airspace, and authorize the lifting of the Check-Fire Status.
- d. There are seventeen designated Helicopter Landing Pads (Improved Landing Areas) throughout Camp Ripley. The areas are cleared for winter use, and are off limits to all vehicle maneuvers.

## 2-5. Live Fire Range Usage

**WARNING: M855A1 5.56mm Enhanced Performance Round (EPR) is NOT AUTHORIZED to be fired on the following Ranges:**

- D Range
- F Range

**NOTICE: A-14 LIVE FIRE FACILITY (SHOOT HOUSE) - USING UNITS MUST HAVE THEIR OWN BODY ARMOR WITH SAPI PLATES, EYE PROTECTION, AND EAR PROTECTION. SAPI PLATES MAY BE HAND-RECEIPTED FROM SUPPLY & SERVICES DIV, 320-616-3128/3130.**

**NOTICE: Per DA PAM 385-63, Non-Lethal Ammunition and Simunitions are considered Live Ammunition. Surface Danger Zones are required for these types of ammunition as well. The use of Non-Lethal Ammunition and Simunitions require an OIC and a RSO. OIC and RSO MUST be listed on the Commander's Safety Certification Memorandum for the weapons they are firing, and they MUST have a current Range Safety Briefing Agreement on file at Range Control. See Chapter 14 Non-Lethal Weapons for CRTC specific guidelines.**

a. Before Range operations several items must be completed prior to arriving at Camp Ripley for Live Fire Range usage. At a minimum, the following must be accomplished to utilize a Live Fire Range:

1. Unit requests facilities IAW Paragraph 1-6 of this Regulation.
2. Individuals are appointed by the Units to range support positions IOT provide safe range operations. Paragraphs 1-3 and 1-4 define responsibilities of appointed personnel, and guidelines for certification.
3. Commander's Safety Certification Memorandums are provided, in writing, to Range Control.
4. Range OICs, RSOs, and unit medical OIC/NCOIC MUST attend a Range Control Safety Briefing, and sign the Range Safety Briefing Agreement prior to the start of range operations. The range OIC and RSO have assigned enough ARSOs to run the range efficiently.
5. The range OIC or RSO must check in with Range Control, prior to departing to the requested range, to ensure no changes have been made to scheduled range times. At this time, a Range Packet, red range flag, and any additional items needed for range operations will be hand-receipted to the range OIC.
6. The range OIC ensures that Range Control has a copy of the Unit's Deliberate Risk Assessment Worksheet (DD Form 2977, DTD NOV 2020 or current version).
7. Upon arriving on the range, establish communication with Range Control, and complete communication requirements as stated in paragraph 1-14. Also, inspect the range for serviceability and cleanliness. If deficiencies are found, notify Range Control immediately.
8. The OIC requests permission to open the range utilizing the Range Opening/Closing Checklist.
9. Range Control determines if all information is correct on the Checklist, and grants permission to open the range.
10. After the firing range is open, the OIC, or a designated representative, will monitor the radio at all times during range operations, and perform hourly (on the hour) radio checks with Range Control.

b. During range operations the range OIC and RSO:

1. Ensure that all safety measures are followed.
2. If an unsafe condition is observed on a range, the person observing the condition will immediately command "CEASE FIRE", and the OIC will report the incident to Range Control.
3. If an aircraft flies over a firing range, the observer commands "Cease Fire". The OIC will report the incident to Range Control, and resume firing when the aircraft has departed the area.

c. After firing is completed, the OIC

1. Requests permission to close the range utilizing the Range Opening/Closing Checklist.
2. Unit completes police call and schedules an appointment with Range Control for clearance of the range.
3. Unit representative departs range after being cleared by Range Control.

**NOTICE: After firing, Commanders must conduct inspections to ensure personnel do not possess or have access to unauthorized ammunition.**



## CRTC Live-Fire Ranges

A-1	Small Arms Known Distance	F	Biathlon Course (.22 Cal. Ammunition ONLY)
A-2	Combat Pistol Qualification	F&M-1	Fire and Movement
A-3	Automated Record Fire	F&M-2	Fire and Movement
A-4	Automated Record Fire	IPBC	Infantry Platoon Battle Course
A-9	M203/M320 Qualification	ISBC	Infantry Squad Battle Course
A-12	25m Zero	J	Field Fire Range
A-14	Live Fire Facility	K	Field Fire Range
B-1	25m Zero	M	25m Zero
B-2	25m Zero	MK-19	MK-19 Qualification (TP-T Only)
B-2 Sniper	Sniper Familiarization Fire	North (NRG)	Multi-Purpose Machinegun Range (MPMG)
Center (CRG)	Multi-Purpose Training Range (MPTR)	OP-23	MK-19 HE
CLF	Convoy Live Fire Exercise	SEAL CABIN	Non-Standard Small Arms
D	Shotgun/Short Range Marksmanship	West (WRG)	Multi-Purpose Machinegun Range (MPMG)/Sniper Field/Heavy Sniper
East (ERG)	Multi-Purpose Training Range (MPTR)		

Detailed information on the above ranges is located in Appendix A, located in the Range Control SharePoint Documents Library, <https://minnesotanationalguard.ng.mil/documents/2019/04/appendix-a-range-descriptions.pdf>

### 2-6. Authorization for personnel within Danger Zones

a. The following personnel are authorized to be within a Danger Zone, subject to the restrictions in the applicable sections of this pamphlet and application of the risk management process by the Camp Ripley Senior Commander:

- 1) Crews directly involved in the firing of a weapon system or munition.
- 2) Tactical Air Control party or Joint Terminal Attack Controllers (JTACs) controlling aviation ordnance deliveries.
- 3) Cannon-launched Guided Projectile (Copperhead) Fire Support Team (FIST) personnel located in the Mission Essential Area (MEA). FIST personnel will only be allowed within the SDZ when the Copperhead is not fired in the ballistic mode.
- 4) Aircrew operating within danger zones as part of an exercise.
- 5) During indirect field artillery firing, personnel may be in Areas A through E subject to the restrictions in Chapter 10 and Chapter 10 of DA PAM 385-63.
- 6) Designator operators (laser) during AGM-114 HELLFIRE antitank guided missile operations.
- 7) Personnel down range when approved overhead small arms ammunition is fired.
- 8) Personnel wearing approved laser eye protection within the LSDZ.
- 9) Personnel down range when supporting training on known distance firing ranges, when protection is provided.
- 10) Personnel participating in Simunitions and Non-Lethal Weapons training.

**NOTICE: Target Scorers/Target Lifter Operators in the A-1 Known Distance Range “PIT” are authorized to wear their normal Duty Uniform (PPE Level 0) while performing their duties. However all occupants of the “Pit” must remain seated during the firing iteration.**

b. Authorization of any other personnel within danger zones requires deviation approval per AR 385-63/MCO 3570.1C and paragraph 1-4 of DA PAM 385-63.

**2-7. Rounds Out of Safe**

All rounds fired must impact within the designated range safety limits. On established direct fire ranges, left and right limits will be clearly marked (e.g., green/orange poles or arrows). If rounds land outside of the safety limits, the range OIC will CEASE FIRE and contact Range Control immediately.

**2-8. Non-Live Fire Ranges**

a. Units will consult Range Control for copies of range specific Standard Operating Procedures (SOP), and the exact requirements for each Non-Live Fire range. The Medical Support personnel (MOS 68W or EMT) on A-6, A-7, and A-15 must also have a Backboard and a “C” Collar on site.

b. The following ranges are classified as Non-Live Fire:

A-5 MOUT Site	DT-1 Driver Training Course 1
A-6 Confidence Obstacle Site	DT-2 Driver Training Course 2
A-7 Rappel Tower	DT-3 Driver Training Course 3
A-10 Hand Grenade Qualification Course	F BIATHLON Ski Trails
A-11 Land Navigation Course	FASP Forward Ammunition Supply Point
A-13 Litter Obstacle Course	MSTC Medical Simulations Training Center
A-15 Field Leader Reaction Course	
A-16 MSTC MOUT	
B-2 Shoot House (MOUT Building)	R Recovery Range
B-3 Land Navigation Course	React to Contact Lane
B-4 Mounted Land Navigation Course	SCALED Range
B-5 Land Navigation Course	W-1 Ferrell Lake Pontoon Bridge Site
B-6 Engineer Dig Site	W-2 Mississippi River Ribbon Bridge Site
B-7 Land Navigation Course	Y-1 POW Camp
B-8 Tactical Mine Lane	Y-2 Tactical Training Base
BENNET HILL Ski/Tubing Hill	
CACTF (Combined Arms Collective Training Facility)	Y-4 Tactical Training Base
CTF (Collective Training Facility)	Water Points (Purification/Shower/Laundry)

c. The range POC must have a current Range Control Safety Briefing Agreement on file. The range POC must check in with Range Control, prior to arriving on the requested range, to ensure that no changes have been made to the scheduled range times. At this time a Range Packet, which contains specific information about the range, will be hand received to the POC.

d. Upon arriving on the range, establish communications with Range Control, and complete communication requirements as stated in paragraph 1-14. Also, inspect the range for any prior damage made to the range.

e. Non-Live Fire ranges are not required to perform hourly communication checks, but they must maintain continuous communications with Range Control, in case of medical emergencies or severe weather alerts.

f. The POC requests permission to open the range utilizing the Range Opening/Closing Checklist.

g. When training and a police call have been completed, the POC will contact Range Control to request closing the range, utilizing the Opening/Closing Checklist.

h. At this time, a range clearance will be scheduled. The POC and a small cleaning detail will remain on the range until Range Control personnel inspect the range.

i. The unit personnel may depart the range after being cleared by Range Control.

**2-9. Observation Post (OP)**

a. OPs MUST be “OPENED” with Range Control prior to the Firing Point(s) they are supporting.

1) For Manual Call-For-Fire missions, a POC with a current Range Safety Briefing is required.

2) For Laser Call-For-Fire missions, a Laser Qualified OIC and RSO are required, per DA PAM 385-63.

b. A red range flag (and blinking red light at night) must be displayed, regardless of which type of Call-for-Fire missions the OP is performing.

c. All Forward Observers (FO) will have a Safety Fan for the FP(s) they are supporting, drawn on an overlay or a map, to determine that all rounds are impacting within the requested Target Box.

d. Any projectile that bursts or lands outside the safety limits, or any unobserved rounds, will require immediate action and investigation.

1) Immediately report the Incident to Range Control, utilizing the Range Incident Checklist (Indirect Fire), located in the Range Packet.

2) Immediately Cease-Fire-Freeze all Firing Points until the responsible Firing Point is identified.

e. OPs are:

OP-1 UM 91011463	OP-16 UM 90162469
OP-1.5 UM 91571521	OP-19 UM 91622771
OP-2 UM 91941565	OP-23 UM 92852379

## 2-10. A-7 Rappel Tower

CRTC Rappel Safety Personnel terminology:

Rappel Safety Officer/Rappel Master=Range OIC

Rappel Lane NCO=Range RSO

Civilian agencies must meet or exceed Army minimum standards outlined in this section and they will utilize their own equipment, and follow their own training guidelines. Civilian competency is established through certification, certifications must be valid, the following certifications are acceptable and the certificate must be on file at Range Control:

a. American Mountain Guides Association (AMGA)

- 1) Rock instructor
- 2) Single pitch instructor
- 3) Climbing wall instructor (artificial structure only)

b. Professional Climbing Instructor Association (PCIA)

- 1) Base-managed climbing instructor
- 2) Top-managed climbing instructor
- 3) Single pitch instructor
- 4) Climbing wall instructor (artificial structure only)

c. Professional Climbing Guide Institute (PCGI)

- 1) Top Rope Guide
- 2) Single pitch guide
- 3) Lead guide
- 4) Multi-pitch guide

d. Climbing Wall Association (CWA)

- 1) Climbing wall instructor

e. Boy Scouts of America

- 1) BSA Level II climbing instructor or climbing director
- 2) BSA Level II COPE instructor or COPE director (artificial structures only)

f. Professional climbing guide/instructors who are licensed by the state or accredited according to:

- 1) AMGA, PCIA, CWA, PRCA or ACCT for artificial structures
- 2) University or College climbing/rappelling instructors who are current in their training (assessment within three years) as climbing wall instructors for artificial structures only.

g. Peak Performance

h. National Fire Protection Association Rope/High Angle Rescue Technician

Military units will consult TC 21-24 in preparation of and during conduct of rappelling. Units may conduct ground training, East wall side and West ledge side tower rappelling without a Rappel Master. In this case, the Unit Commander will be responsible for the safety of the rappelling training. Military units must utilize Camp Ripley Range Control rappelling equipment. Any unit utilizing the rappel tower who has individuals under the age of 18 are required to emplace safety mats under the rappel tower prior to use.

- a. The Rappel Master/Rappel Safety Officer, and Rappel Lane NCO must be listed in the Commander's Safety Certification Memorandum.
- b. The Rappel Master/Rappel Safety Officer, and Rappel Lane NCO must attend a Range Control Safety Briefing prior to tower operations.
- c. Medical Support OIC/NCOIC must have attended the Range Control Briefing prior to supporting tower operations.
- d. A Risk Management Worksheet must be on file at Range Control, and on the range.
- e. The following personnel must be on the range during tower operations:
  - 1) Rappel Master/Safety Officer
  - 2) Rappel Lane NCO (one per Rappel Lane)
  - 3) Belayer Safety (one for every 2 lanes)
  - 4) Belayer (one for every rope)
  - 5) MOS qualified Medic or EMT
- f. When conducting advanced rappelling techniques or while performing Australian Style Rappelling, Rappel Safety personnel must meet the qualifications outlined in TC 21-24, wherein the Rappel Safety Officer and Rappel Lane NCO have been certified by a Rappel Master within the last 6 months.
- g. Rappel Master/Rappel Safety Officer (OIC) requirements (Per TC 21-24):
  - 1) Must be an E-7 or above.
  - 2) Must have completed a TRADOC approved Rappel Master Course or have completed Air-assault, Ranger Course, Basic Military Mountaineering Course and is certified by the Battalion Commander, certificate must be submitted to Range Control.
  - 3) Recertification MUST be current.
  - 4) Has overall responsibility for the safe conduct of tower operations.
- h. Rappel Lane NCO (CRTC RSO) requirements:
  - 1) Must be a Sergeant (E-5) or above.
  - 2) Is selected by the company commander.
- i. Belayer Safety requirements:
  - Ensures belayers are performing their duties properly.
- j. Belayer duties:
  - 1) Ensures that the rappel ropes are even with the ground.
  - 2) Does not wear gloves.
  - 3) Watches the rappeller at all times. Maintains constant voice contact with the rappeller.
  - 4) Wears a Kevlar helmet to prevent injury from falling debris.
- k. Medical Support Personnel:
  - 1) MUST be MOS 68W or Nationally Certified EMT.
  - 2) Must have a COMPLETE Aid Bag.
  - 3) Must have a backboard and C-collar.
  - 4) Must have a medical evacuation vehicle with an operational radio and Camp Ripley Map.
  - 5) Must know the location of the nearest Heli-pad.
  - 6) Must know the Camp Ripley Medical Response Procedures.

## **2-11. Water Bridging and Ice Crossing Training Sites**

- a. General
  - 1) Submit a written Operations Plan and Risk Management Worksheet to Range Control **NLT 90 days prior** to range usage.
  - 2) Ensure all OPLANs include adequate safety and accident prevention measures, and rescue procedures to perform water training safely.
  - 3) The OIC and RSO must be listed in the Commander's Safety Certification Memorandum.
  - 4) The OIC and RSO must attend a Range Safety Briefing prior to training.
- b. Bridge Operations
  - 1) Commanders of Units participating in river/lake/ice operations will ensure unit SOPs address all aspects of safety for equipment and facilities being used.
  - 2) Commanders will ensure all applicable TCs and ARs are used in the development of their SOP, specifically:
    - (a) TC 21-21 Army Water Survival Training
    - (b) AR 385-10 The Army Safety Program

(c) Tactical Water Safety Operations, Chapter 13, Paragraph 8, Page 62

(d) Water Operations, Chapter 22, Paragraph 2, Page 79

c. Wheeled/Tracked Vehicle Operations

1) Units will follow guidelines and IAW TC 5-210.

2) Commanders will ensure unit SOPs address all safety aspects of equipment and facilities in use.

3) All personnel aboard each vehicle crossing the water or ice will have approved life vests.

4) Crossing vehicles must have a functioning inter-communications system and maintain continuous contact with the RSO.

d. Refer to Chapter 18 Environmental, paragraph 18-6 for specific equipment cleaning instructions.

**NOTICE: Per Chapter 18, Paragraph 18-5, if Units will be utilizing both W-1 and W-2 Bridge Sites, W-1 MUST be utilized prior to W-2.**

**2-12. Range Personal Protective Equipment (PPE) Requirements**

Training casualties on operational ranges must be minimized through the use of appropriate personal protective equipment (PPE). Reference Table 2-2 for required PPE levels. Ultimately, the commander must decide the appropriate level of PPE based on completion of a thorough risk assessment.

a. All personnel within the hearing hazard zone will wear approved hearing protection. The size of the hazard zone varies with the weapon.

b. The following list of distances to the hazard contours for common military weapons is conservative:

1) .50 caliber: 55 m to the side, 12 m to the rear.

2) .45 caliber: 12 m to the side, 4.5 m to the rear.

3) 9 mm: 9 m to the side, 6 m to the rear.

4) 7.62 mm: 20 m to the side, 8 m to the rear.

5) 5.56 mm: 24 m to the side, 6 m to the rear.

c. PPE Level Chart, DA PAM 385-63, Table 2-2, Page 12.

d. Head protection (combat vehicle crew, approved ballistic helmet, or flight helmet as appropriate) will be worn by all personnel operating or riding as a passenger in Army tactical vehicles in the field.

**Table 2-2**

**Personal Protective Equipment (PPE)**

Personal Protective Level	Personal Protection required
0 (See NOTE)	Army Combat Uniform/Standard Utility Uniform, hearing/eye protection
1	Body armor and helmet, hearing/eye protection
2	Body armor with front/back enhanced small arms protective insert plates and helmet, hearing/eye protection
3	Body armor with front/back/side enhanced small arms protective insert plates and helmet, hearing/eye protection

NOTE: Eye protection is encouraged. Based on risk assessment, the Unit Commander may require ballistic and/or laser eye protection.

**2-13. Ice Diving Operations**

Ice diving is conducted by the United States Coast Guard dive teams, United States Navy dive teams, and attached United States Special Operations Forces only. All other personnel are not authorized to conduct dive operations on CRTC without an exception to this policy.

a) Diving will be conducted only by trained and qualified US military divers. All students will be under the supervision of an appointed and qualified instructor IAW with appropriate regulations and policies for their service.

b) Ice thickness will be assessed before equipment is placed on the ice to ensure load is within margins of safety and must be monitored throughout training to ensure safe operations.

c) Vehicles are not allowed on any frozen body of water on Camp Ripley without an exception to policy. Snowmobiles to aide in casualty evacuation are allowed and ETPs will be granted for rental equipment serving this purpose.

- d) Units conducting diving must ensure medical support plans meet DOD regulations for the service conducting training. Portable decompression chambers are recommended to aide in on site treatment during emergencies. The nearest potential chamber is in the Twin Cities Metro approximately 2.5 hours from CRTC.

## Chapter 3

### Ammunition & Targetry

#### 3-1. Smoking

Smoking is prohibited at firing pads, ready storage sites, and assembly sites. "No Smoking" signs will be prominently displayed. Smoking is also prohibited in any vehicle used to transport ammunition or explosives. The possession of matches or any other flame-producing device while working with, or transporting, propellants or explosives is not allowed, except as required for a particular operation.

#### 3-2. Positioning and Issuing Ammunition and Explosives

a. Ammunition, explosives, and pyrotechnics will be positioned to minimize the potential for ignition from external sources, explosion, rapid burning, or sympathetic detonation, and will be located and stored IAW DA Pam 385-63 Range Safety and DA Pam 385-64 Ammunition and Explosives Safety Standards.

**NOTICE: A "Storage of Ammunition and Explosives (A&E) in CRTC Cantonment Checklist" must be completed and approved by the Installation Safety Officer (ISO) in order to store any ammunition in the Cantonment Area of Camp Ripley. The Checklist is available from the ISO SharePoint site or from the CRTC ASP.**

**NOTICE: Safeguarding, handling, and protection of ammunition and explosives against the elements is a Unit responsibility.**

- b. The following conditions must be followed with any ammunition that is stored on the ranges:
- 1) Two Fire Extinguishers, fully charged, and within their expiration date. (Type 10BC, per the CRTC LOG Support Procedures SOP, and DA PAM 385-64).
  - 2) Placed on pallets (if stored outdoors).
  - 3) Placed in a dry place.
  - 4) Must be covered by a tarp to protect from sparks, direct sunlight, and weather.
  - 5) Ammunition will not be stored within 1250 feet/381 meters of the Field Training Area Boundary, IAW DA PAM 385-64, Table 5-1.
  - 6) Proper placard displayed.
  - 7) "No Smoking within 50 Feet" signs must be posted.
  - 8) The site must always be guarded.
  - 9) Technical Bulletin 43-0250, dated 29 FEB 2012, and any Safety of Use Messages (SOUMs) or Ammunition Information Notices (AINs) for ammunition being fired must be present on the range.
- c. Distribution of ammunition to personnel will occur only in areas designated for that purpose, for example, ammunition breakdown buildings, ready lines, firing lines, attack positions, assembly areas, or defilade positions. Blank and live-fire ammunition will not be stored in, or issued from, the same building at the same time.
- d. Fuel storage areas will be located at separation distances from ammunition storage areas based on the amount of fuel.
- 1) Fuel quantities up to 500 gallons will be separated from each ammunition site by at least 50 ft.
  - 2) Fuel quantities between 500 to 5,000 gallons will be separated from each ammunition site by at least 100 ft.
  - 3) For fuel quantities greater than 5,000 gallons, refer to DA Pam 385-64 (Army) or NAVSEA OP5 (Marine Corps).
  - 4) Forward arming and refueling point operations, and separation distances for fuel, ready ammunition storage areas, and basic load storage areas will be in accordance with ATP 3-04.17.
- e. Limit the unpacking of ammunition at the breakdown building, ammunition transfer point, or firing line to the minimum number of rounds needed for efficient firing of the exercise. Packaging material, propelling increments and fuzes will be retained until firing is complete. Units will not burn wooden containers, or indiscriminately fire or dispose of ammunition to preclude its return to a storage facility.

- f. All ammunition unpacked for firing, but not fired, will be repackaged into its original packing configuration prior to return to the Ammunition Supply Point, Bldg. 24-199, (320) 616-3167/3169.
- g. Ammunition that is easily degraded by short-term exposure to moisture, such as propelling charges, pyrotechnic signals, and simulators, will be unpacked only for the minimum amount of time consistent with mission requirements.
- h. When being transported off the installation, all ammunition, explosives, and pyrotechnics must be transported IAW 49 CFR (Code of Federal Regulations).
  - 1) All personnel transporting ammunition, explosives, and pyrotechnics must have completed the Hazardous Material Transportation Course.
  - 2) All vehicles must have proper placards while transporting ammunition, explosives, and pyrotechnics off the installation. Placards are optional in the FTA.
- i. All units operating an Ammunition Transfer Point (ATP) will conduct operations IAW DA PAM 385-64.

### **3-3. Qualification and Restriction of Ammunition and Explosives**

- a. The use of nonstandard ammunition and explosive items is strictly prohibited.
- b. Field expedient explosive devices as prescribed by applicable FMs and TMs are authorized for use, contingent on the approval of the Range Control Officer. A Risk Management Worksheet and an item specific SOP must be submitted before approval will be granted.
- c. Do not use live ammunition, and items that contain explosives or propellants, as training aids for classroom instruction.
- d. Unit ammunition personnel will be familiar with inherent hazards of specific types of ammunition, proper identification markings, and color codes.
- e. Ammunition must be cleared for overhead fire of unprotected troops (that is, certified propellant, projectile, and fuze). List of certified ammunition is available at the Ammunition Supply Point, Bldg. 24-199, (320) 616-3167/3169.
- f. Only approved munitions listed in the Munition History Program will be fired on Camp Ripley.
- g. Ammunition determined to be defective will not be fired. It will be reported to the ASP Supervisor or Quality Assurance Specialist-Ammunition Surveillance (QASAS) immediately. Examples of defective ammunition are:
  - 1) Fuzes or fuzed rounds that are inadequately tightened, insecurely staked, or are missing safety devices.
  - 2) Safe and arming mechanisms, if so equipped, are in the "armed" position.
  - 3) Ammunition showing deterioration.
  - 4) Ammunition showing evidence of defects in material or assembly.
  - 5) Ammunition that has been dropped, and there is visible damage.
- h. Ammunition and unopened ammunition packaging which shows evidence of tampering will not be issued until it is cleared by the QASAS or ASP Supervisor.

### **3-4. Suspension of Ammunition and Explosives Involved in Malfunctions**

- a. When any round or item of ammunition, explosives, or their components malfunctions, the firing unit will notify Range Control immediately. Range Control will then notify the ASP Supervisor and/or the QASAS. The range OIC and RSO will suspend the use of the Lot in question.
- b. The Camp Ripley ASP Supervisor will substantiate, or withdraw, the suspension, per AR 75-1.
- c. Any suspended ammunition will not be fired in training.
- d. Firing of any "restricted" ammunition will be conducted only in accordance with the restriction requirements.

### **3-5. Misfire Procedures Reporting (NOTE: Misfire is failure of a round to fire)**

- a. Misfire procedures in Technical Manuals (TMs) for the appropriate weapon system will be followed. In the event Misfires present an immediate hazard to personnel, IMMEDIATELY report the type of round, the location, unit, and give the point-of-contact information of the individual having knowledge of the Misfire to Range Control.
- b. When dud or misfires occur, follow guidance in AR 75-1. The affected Lot(s) will be recorded as a malfunction, and reported to the Ammunition Supply Point immediately.



c. A Misfire of any serial numbered munition **MUST** be reported to Range Control and the ASP immediately.

### **3-6. Unexploded Ordnance (UXO) Reporting (NOTE: UXO (Duds) are munitions which have been fired or projected, and are armed, but have failed to function)**

The range OIC will report all UXO/Dud ammunition to Range Control. In the case of grenades or other munitions that may be immediately hazardous to personnel, firing will be halted and the range will be closed until qualified EOD personnel clear the UXO. In all other cases, firing will not be halted. Notify Range Control to fill out a UXO Report. Units must also remember to enter UXO/Dud information into TAMIS.

- a. Leave all UXO/Duds untouched and in place.
- b. Notify Range Control **IMMEDIATELY**. Mark the area while maintaining safe distance.
- c. Route traffic a safe distance around the area.
- d. Obtain an accurate grid coordinate, with other descriptions to pinpoint UXO/Dud.
- e. Prepare a map overlay indicating location of dud, and submit to Range Control, upon request.

### **3-7. Disposition of Ammunition and Explosives Involved in Malfunctions and Accidents**

a. Materiel involved in malfunctions or accidents and any evidence, such as components or fragments of the weapon system, ammunition, missile, or rocket will be carefully preserved in the position and location it occupied at the time of the accident. If the material has been involved in a Class A or B accident, it will remain in place until disposition is directed by the Investigating Officer, unless immediate hazard to life or property are present.

#### 1) Class A Accident

(a) Property damage is \$1,000,000.00 or more, and/or

(b) Is an aircraft or missile destroyed, abandoned, or missing, and/or

(c) Is there an injury and/or occupational illness resulting in a sudden death fatality or permanent total disability?

#### 2) Class B Accident

(a) Is property damage > \$200,000.00 but < \$1,000,000.00, and

(b) Is there an injury and/or occupational illness resulting in a permanent partial disability, or were three (3) or more personnel hospitalized as a result of a single occurrence?

b. Damaged or malfunctioned guided missiles and rockets will be reported IAW AR 75-1, and handled per the applicable TM.

### **3-8. Ammunition Turn-in Procedures**

a. All ammunition will be returned to the ASP with 100% accountability IAW DA Pam 710-2-1, Appendices J and K; and the Camp Ripley ASP External SOP.

b. All munitions and pyrotechnics will be sorted by type and lot number.

c. Ammunition residue, such as canisters from expended containers, hand held flares, etc., will be returned to the ASP.

d. Serviceable returned munitions and pyrotechnics will not be mixed with misfires, or damaged rounds.

### **NOTE: Small arms residue MUST be returned to the ASP in this manner:**

1) **Expended cartridge cases will be inspected for live rounds, and will be free of dirt, rocks, grass, and any litter. They must be segregated by type and placed in wooden ammunition wire-bound boxes, or the commercially packaged cardboard ammunition boxes, prior to turn-in. Metal cans will be returned empty. One hundred percent (100%) accountability is required for all ammunition and residue.**

2) **Care must be exercised to maintain packing material in a serviceable condition.**

3) **All residue will be inspected by a representative of the ASP.**

4) **Corrective action WILL be accomplished by the unit prior to re-inspection and acceptance of salvage material by the ASP.**

**NOTICE: TURN-INS THAT DO NOT COMPLY WITH THE ABOVE CONDITIONS WILL BE REJECTED, AND DEFICIENCIES WILL BE CORRECTED, BEFORE BEING ACCEPTED BY THE ASP.**

### **3-9. Destruction of UXO/DUD**

Only EOD personnel will accomplish destruction of UXO/Dud ammunition.

### **3-10. Policing the FTA**

- a. Removal of spent brass, unfired rounds, or components of fired rounds from the Impact Areas is prohibited.
- b. Dumping and/or burying of ammunition or explosives into the Training Areas, and/or Impact Areas, is prohibited.
- c. Unauthorized removal of ammunition, pyrotechnics, explosives, and ammunition residue from the FTA is prohibited.
- d. A DA Form 5811-R, signed by the first O-5 in the Chain of Command, is required for residue shortages.

### **3-11. Amnesty Program**

Camp Ripley recognizes the need for an Ammunition Amnesty Program. All military amnesty ammunition can be turned in at the Ammunition Office, Bldg. 24-199, 320-616-3167/3168/3169 during normal business hours. There is also an Amnesty Box located at the south entrance to the building for non-business hours deposits.

### **3-12. General Requirements for Targets and Target Mechanisms**

- a. Target types are locally manufactured, as prescribed in TC 25-8 Training Ranges, or commercially purchased prefabricated targets.
- b. Requests for targets will be made NLT 90 days in advance.
- c. All issue and receipt of targets, and target accessories, will be handled through the Automated Target Systems (ATS) Office, Bldg.2-198, 320-616-3132/3133, or at Range Control, Bldg.24-199, 320-616-3137/3134.
- d. Using units are responsible for the setup, maintenance, and cleanup of all target materials not controlled by ATS.
- e. Target accessories (lifters, thermals, batteries, chargers, etc.) are available at ATS.
- f. ATS personnel will operate, or provide guidance for operation of, target lifting remove control devices.

### **3-13. Moving Targets**

- a. Armor Moving Target Carriers (AMTC) and/or Infantry Moving Targets (IMTs) are available on selected ranges.
- b. Upon request, "Movers" may be fitted with Battle effects simulator, Muzzle flash simulators, or Hostile Fire Simulators.

### **3-14. Ground Targets**

- a. Small Arms
  - 1) Enhanced Remote Target Systems (ERETS) small lifters are stationary, and used for familiarization and qualification on selected small arms ranges.
  - 2) Targets for these ranges will be the standard E or 3D type as prescribed in TC 25-8.
  - 3) Targets are maintained by ATS personnel.
  - 4) Due to time constraints, targets will not be changed on the day of firing.
  - 5) Selected targets have Muzzle Flash Simulators for night fire use.
- b. Tank/Bradley Ranges
  - 1) ERETs heavy lifters are used for familiarization and qualification on selected ranges.
  - 2) Upon request, heavy lifters may be fitted with Target Kill Simulators, Hostile Fire Lamps, or Hostile Fire Simulators.

### **3-15. Radio Controlled Targets**

- a. M31 Infantry Target lifters and Heavy lifters are portable and available for use on Camp Ripley, with approval from Range Control, and coordination with Automated Target Systems.
- b. Infantry Target lifters are designed for use with single or double infantryman type targets only (E, Double E, or 3D type holders must be manufactured).

# Chapter 4

## Small Arms

### 4-1. Firing Conditions

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Per DA Pamphlet 385-63 Range Safety (dated 16APR14):

Chapter 4

Small Arms

4-1. Firing conditions

a. For the purpose of this Pamphlet, small arms are man-portable, individual and crew-served weapon systems of 30mm or less used primarily against personnel and lightly armored or unarmored equipment. Small arms SDZ diagrams and tables provided in this chapter are the standard for the proper construction of small arms direct fire SDZs with or without exploding projectiles.

b. The cone SDZ may be applied when designing or conducting training on static/known distance style ranges that do not involve fire and movement or fire and maneuver.

c. The batwing SDZ provides for greater containment of all ricochets. For the Army, the batwing will be considered when designing or conducting training on ranges that involve fire and movement, fire and maneuver, flanking fire, and/or when ricochet hazards outside the range boundary may endanger nonparticipating personnel. Decision on use of batwing will be based on level of risk and approval of appropriate command risk acceptance authority in accordance with DA Pam 385-30. For the Marine Corps the batwing will be applied when designing or conducting training on ranges that involve fire and movement, fire and maneuver, flanking fire, and/or when ricochet hazards outside the range boundary may endanger nonparticipating personnel.

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**NOTICE: Authorization from the Camp Ripley Director of Public Safety must be granted prior to firing any type of ammunition or pyrotechnics in the Cantonment Area.**

**Phone: 320-616-3087/3088.**

a. Small Arms may be fired at locations other than at the Established Ranges when the following conditions exist:

1) The Surface Danger Zone can be employed without significant impact on other range operations or training areas.

2) The Range Control Officer has approved the location.

3) A Risk Assessment Worksheet has been developed by the Unit, detailing the risk mitigation measures they will implement.

4) All other conditions for Live Fire exist, as outlined in Paragraph 2-5 Live Fire Range Usage.

b. All personnel within the hearing hazard zone, for each type of ammunition listed below, will wear approved single hearing protection.

1) .50 caliber: 55 m to the side, 12 m to the rear.

2) .45 caliber: 12 m to the side, 4.5 m to the rear.

3) 9 mm: 9 m to the side, 6 m to the rear.

4) 7.62 mm: 20 m to the side, 8 m to the rear.

5) 5.56 mm: 24 m to the side, 6 m to the rear.

c. All personnel must be cautioned in advance of hazards from misfires, cook-offs, or runaways in overheated weapons.

d. All personnel must be briefed on misfire procedures as prescribed in appropriate weapon TM and other applicable manuals.

e. Do not issue, load, or fire ammunition until the range has been opened.

f. The RSO will thoroughly inspect all personnel and weapons after the completion of firing, to ensure that live ammunition is not in the possession of unauthorized personnel.

g. The OIC is responsible for tracking and maintaining the accountability of ammunition, fuzes, and number of rounds being fired as instructed by ammunition personnel during the issuance of ammunition.

h. The OIC is responsible for tracking all ammunition fired by number of rounds, type of ammunition, and Department of Defense Identification Code (DODIC). This must be reported to the Range Control Office when closing the range, utilizing the Range Opening/Closing Checklist.

i. Units will not indiscriminately fire ammunition to preclude return to storage or turn-in.

j. Approved eye protection will be worn, especially during force-on-force training maneuvers or scenarios.

#### **4-2. Additional Information**

##### **a. Automated Ranges**

1) In addition to requirements of this regulation, Units are also required to fulfill requirements of the specific range SOPs. The SOPs are located in the Range Packets, or can be requested through Range Control.

2) Changes to Automated Range Scenarios must be requested **NLT 72 hours prior** to firing.

3) The range OIC and RSO determine the number of Assistant RSOs (Lane Safeties) they will utilize to efficiently run the range.

4) Automatic rifles are considered loaded when a magazine is in the receiver.

##### **b. Clearing Barrel Usage**

Clear all weapons in accordance with appropriate TC/FM/TM

**NOTICE: Reference TC 3-20.40, Chapter 1, paragraph 1-42, for the Uniform Item Requirements during Record Fire.**

**NOTICE: Rifle bolts will remain open and locked to the rear, except during firing, while on the firing line.**

**NOTICE: If personnel move from one firing position to another, they may carry the weapon with the muzzle pointed up and down range, or they may carry the weapon in the "Low Ready" position with the muzzle directed down range.**

#### **4-3. Automated Ranges Night Firing Procedures**

a. There will be one Lane Safety per two firing positions. Safety Vests are located at Range Control.

b. Each Lane Safety will have a flashlight with a clear lens to signal the Tower Operator, and to clear and/or correct a weapon malfunction with.

c. Follow the directions of the Tower Operator at all times.

#### **4-4. Blank Ammunition**

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Per NGR 385-63 Range Safety, Chapter 4, paragraph 4-6, an OIC and a RSO, each with the rank of E-5 or above, are required when firing Blank Ammunition.

Blank ammunition. The following precautions will be observed during the use of blank ammunition:

(1) The blank firing adapter (BFA) is a necessary component for operational safety. Weapon systems for which approved BFAs are manufactured will not be fired without the proper BFA. The distance at which weapons can be safely fired at unprotected troops without causing injury is somewhat reduced with the BFA. However, 5 m safe separation distance will not be reduced. This distance, with a dispersion angle of 10 degrees left and right of the GTL, does not exclude possible injury to the unprotected eye. Hearing protection (ear plugs) should be worn while firing blank ammunition.

(2) Army combat uniform and Marine Corps combat utility uniforms offer skin protection and should be worn at all times. For Army, eye protection will be used. For Marine Corps, eye protection should be used.

(3) A violation of the safe separation distance could result in serious injury, and within 1 m may cause fatal injuries.

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a. Exercise the same precautions in loading, unloading, and clearing weapons during blank ammunition firing, as when firing live ammunition.

b. Troops will not use Blank ammunition during hand-to-hand training.

c. Blank ammunition may not be fired in the Cantonment Area without prior approval from the Camp Ripley Director of Public Safety, Phone # (320) 616-3087/3088.

d. Live and Blank ammunition will not be issued simultaneously to individual troops, or crews of combat or combat support vehicles, prior to the initiation of a force-on-force training exercise.

e. Prior to initiating force-on-force training, commanders will ensure that there is no live ammunition on board vehicles or in possession of troops. A reasonable period of time shall be allocated to ensure that no live ammunition remains with soldiers preparing to receive blank munitions for field training.

f. Weapons that are firing blank ammunition must have the blank firing adapter affixed to the weapon. This provides clear notice that blanks are in use, and prevents possible projection of particles directly at a soldier during training operations.

**DANGER: Do not fire Small Arms Blank ammunition (5.56 mm and 7.62 mm) within 5 meters of personnel. A distance of 20 meters should be maintained from personnel while firing .50 Cal. Machine Gun Blank ammunition.**

#### **4-5. Unestablished Ranges**

Units requesting to conduct a Live Fire Exercise (LFX) at a location other than on an Established Range **MUST** have a detailed Training Scenario, Firing Point and Target Location Diagram, and a Risk Management Plan presented to the Range Control Officer **NLT 90 days prior** to the Exercise. Range Control must have this allotted time to draw the requested event Surface Danger Zone, and to deconflict any affected Ranges, Training Areas, or other Facilities that may already be reserved in RFMSS. See Chapter 17 for additional requirements for Live Fire Exercises.

# Chapter 5

## Grenades and Grenade Launchers

### 5-1. Hand Grenades

- a. High explosive loaded type grenades
  - 1) These contain explosive charges that detonate after a short delay (3 to 5 seconds). Every precaution will be taken to prevent injury from flying fragments.
  - 2) For training purposes, fragmentation and offensive hand grenades will be thrown from a trench or barrier equivalent to a screen of sandbags 0.5 meter thick.
- b. Firing conditions for fragmentation and offensive grenades
  - 1) Personnel within the 150 meter danger area when casualty producing hand grenades are thrown will wear at a minimum, protective helmet and body armor, single hearing protection, and proper eye protection (PPE Level 1).
  - 2) Safety clips on fragmentation and practice grenades will not be removed until immediately before the safety pin is removed. The grenade must be thrown. No attempt will be made to re-insert the safety pin.
  - 3) All personnel must be proficient in the safety precautions for handling and throwing grenades before live grenade training begins. **Personnel MUST qualify on A-10 Hand Grenade Qualification Course, and COMPLETE practice grenade training in a Mock Bay (on L/HGR Range) prior to live grenade training on the HGR.**
  - 4) OICs, RSOs, and live-bay ARSOs for live grenade training events must be certified to perform these duties. Certification will include training detailing actions in the event of a dropped grenade, short throw, grenade thrown other than downrange, SDZ, control of observers, misfire/dud grenade procedures, arming, throwing techniques, and pre-live bay requirements. RSOs and ARSOs must be qualified with the hand grenade prior to assuming their duties.
  - 5) Dud high explosive grenades will not be approached by anyone other than EOD personnel. Adjacent throwing bays to the one with the dud will be closed until EOD personnel clear the dud.
  - 6) Personnel will not leave protected cover for 5 minutes after a Hand Grenade malfunction.
  - 7) Live grenades will not be thrown into standing water, deep snow, or dense vegetation.
  - 8) Range OICs and RSOs are cautioned that multiple employments of grenades in a training scenario significantly increase the difficulty of determining the actual number of grenades that detonated. Subsequent training scenarios, generating an unplanned detonation, may activate dud grenades.
- c. Prior to using the practice hand grenade, Baseball G811, the OIC will:
  - 1) Inspect the body for cracks.
  - 2) Inspect for foreign material in grenade body and in the fuze opening threads.
  - 3) Insure that the porthole in the base is not blocked.
  - 4) Insert a new fuze, preparing the grenade for reuse.

### 5-2. Grenade Launchers and Grenade Machine Guns

- a. Personnel will be instructed in the proper use of grenade launchers and grenade machine guns, and applicable safety precautions before firing live ammunition.
- b. All HE Duds will be reported to Range Control.
- c. M203/M320 Grenade Launchers. A-9 is the Grenade Launcher Qualification Range.
  - 1) HE M320 40mm is authorized for firing into Hendrickson or Leach Impact Areas only.
  - 2) Illumination rounds fired from the M203/M320 will be treated the same as hand held signals, and may be utilized where they are permitted IAW CRTC Fire Control Status.
  - 3) Hazardous fragmentation from HE grenade ammunition may be experienced 165-meters from the point of detonation.
  - 4) OICs and RSOs must ensure that only low-velocity grenade cartridges are being fired.
  - 5) Single hearing protection will be worn within 2 meters of the grenade launchers.
- d. Grenade Machine Guns (MK19)  
MK-19 Range is the MK19 Qualification Range.
  - 1) J, MK-19, and OP-2 Ranges are approved for 40mm TP rounds only.
  - 2) K and OP-23 are the only authorized ranges for MK-19 40mm HE rounds.

- 3) Targets will be engaged only at ranges greater than 75 meters with TP ammunition.
  - 4) Targets will be engaged only at ranges greater than 310 meters with HE ammunition.
  - 5) Firing through obstructions is prohibited.
  - 6) PPE Level 1 will be worn at all times when firing HE ammunition.
  - 7) Firing over open hatches is not authorized.
- e. Restrictions for static vehicle mounted MK19:
- 1) A gunner's quadrant and/or MK64, MOD 7, mount depression stop will be used to keep the minimum elevation above 30 mils when firing.
  - 2) For M998 vehicles-Soft top must be covering the driver and passenger.
  - 3) For M113 and M106 vehicle-Driver's hatch must be closed when firing over the left side, forward, or right side of the vehicle, or when personnel or objects in hatch areas are forward of the weapon muzzle.
- f. Restrictions for moving vehicle mounted MK19, per DA Pamphlet 385-63:
- To preclude unintentional impacts of HE and HEDP ammunition at ranges less than 310 meters:
- 1) Restrict speeds to not greater than 16 kph/10 mph when firing from the HMMWV M1025/1026 armament carrier, M998T interim squad carrier, and the M1114 over paved and improved roads in good condition, and not greater than 8 kph/5 mph over rough roads, trails, and cross-country.
  - 2) Restrict speeds to not greater than 16 kph/10 mph when firing from the M113 and M106 personnel carriers on any kind of terrain.

## Chapter 6

### Antitank Rockets/Recoilless Rifles

#### 6-1. Firing Conditions

- a. The following ranges are authorized for firing Antitank Rockets/Recoilless Rifles:
  - 1) J - Practice and live rounds
  - 2) K - Practice and live rounds
  - 3) ERG – Practice Subcaliber only
  - 4) CRG – Practice Subcaliber only
- b. Personnel will not stand or have any portion of the body directly in front of or behind a loaded rocket launcher.
- c. Before firing, the SDZ to the rear of the launcher (100m back blast area) will be cleared of personnel, materiel (including expended cartridge cases), and readily combustible vegetation.
- d. Cover ammunition stored on rocket ranges. Store ammunition to the flank of firing positions, and out of the direct rays of the sun.
- e. Do not fire ammunition during temperatures other than those prescribed on the round.
- f. AT-4s and M3 multi-role medium range weapon system (Carl Gustaf weapon systems) will not be fired from within a building, or within 50 meters of a vertical or nearly vertical backstop, barrier, or obstacle, because of the risk of debris ricochets.
- g. Personnel within 390 meters of the weapon will wear approved single hearing protection.
- h. Prone or foxhole firing of HE AT-4 (M136) is not authorized. In training, an individual may fire one round from the sitting position, or three rounds from the standing or kneeling positions in a 24-hour period.
- i. The firing of antitank rockets over troops from a moving vehicle or aircraft is not authorized.
- j. Follow all procedures and precautions in the applicable TCs, FMs and TMs during pre-fire checks and firing operations.

**NOTICE: Per TM 3-23.25, Chapter 2, para. 2-55, page 2-12, when operating temperatures fall below freezing (0 deg Celsius/32 deg Fahrenheit) the dimensions of all Backblast areas and Safety Zones double.**

**NOTICE: Per TM 3-23.25, Appendix A, para. A-12, Table A-2, page A-5, within a 24-hour period, a Soldier may only fire, observe fire, or act as a Safety NCO for the M136 AT-4 one to three times, depending on the firing position. Three times total if the M136 is fired from either the standing or kneeling positions. One time total if the M136 is fired from the sitting position.**

**NOTICE: Per TM 9-1015-262-10 Double hearing protection is required for both the gunner and assistant gunner when firing the M3 multi-role, medium range weapon system. Anyone firing the M3 will follow all guidance listed in the TM and will refer to all restrictions on firing positions and changes based on specific round being fired.**



# Chapter 7

## Antitank Guided Missiles

### 7-1. TOW Missiles

#### a. Firing conditions - General

1) The TOW missile (inert round) can be fired on J, K, and OP-16. The TOW missile HE live round can be fired on OP-15 and OP-23 provided there are no other units training within the conflicted area. Live fire round requires coordination with range control 90 days out from execution.

2) Before firing any TOW missile, the entire SDZ will be cleared of all non-mission essential personnel.

3) TOW missile firings must be accomplished within predetermined boundaries.

4) Procedures and precautions in FMs and TMs will be observed in all preparation and firing operations.

5) Only those personnel actively engaged in firing and controlling the Ground Mounted TOW Missile System will be at the launch point. PPE Level 1 must be worn.

6) Personnel at launch point will not stand, nor permit any part of their body to be, directly behind or in front of the launcher while missile is in the launch tube.

7) TOW missiles will not be fired from within buildings or within 100 meters of any vertical or nearly vertical backstop.

8) The range will be inspected after TOW firing activities to ensure, to the maximum extent possible that all guidance wires are removed from the range. Aircraft will not be used to remove guidance wire.

9) Occupation of Area I, the area directly in front of the weapon, is prohibited.

10) All missiles will be tested using the missile test set as part of the overall system pre-fire checks. This will identify the majority of missiles with a potential for operational failures.

#### b. Surface Danger Zone

1) Area F danger area to the rear of the launcher is 100 meters.

2) At least single hearing protection will be worn by all personnel within the rectangle 100 meters to either side and 200 meters to the rear of the TOW.

3) OIC and RSO will ensure no personnel or equipment are located within this area.

#### c. Misfires and malfunctions will be handled IAW appropriate TMs.

#### d. MILES training

1) The TOW missile uses the antitank weapons effect signature simulator (ATWESS) device for a noise simulator.

2) ATWESS devices must never be armed until ready to fire. A severe jolt to the ATWESS may cause the device to function.

3) Approved single hearing protection is required.

### 7-2. Javelin

The Javelin is a shoulder-launched, man-portable, anti-armor weapon system. It fires a passive imaging infrared missile with a lock-on before launch guidance system. J, K, OP-16, and OP-23 Ranges will support Javelin SDZ.

#### a. Firing conditions

1) Before firing any Javelin missile, the entire SDZ will be cleared of non-mission essential personnel. Only those personnel specified in the appropriate FMs and TMs will be permitted in the SDZ.

2) Javelin missile firing will be accomplished within predetermined boundaries. The Range Control Officer will ensure that an adequate SDZ exists.

3) See applicable FMs and TMs for preparation and firing operations, and Misfire procedures.

4) Personnel will neither stand nor permit any part of their body to be directly behind or in front of the Javelin launcher.

#### b. Surface Danger Zone

Personnel located in the 100-meter primary danger zone to the rear of the launcher must wear approved hearing and eye protection.

## Chapter 8

### Tank/Bradley Fighting Vehicle (BFV) Gunnery

#### 8-1. General

- a. The only Ranges authorized for Tank and BFV firing are as follows:
  - 1) Center Range (CRG): Automated/computer scored. Tank Main gun/machine guns. BFV Main gun/machine gun.
  - 2) East Range (ERG): Automated/computer scored, Table XII capable. Tank Main gun/machine guns. BFV Main gun/machine gun.
  - 3) North Range (NRG): Stationary Firing Positions ONLY. Scaled BFV range main gun and machine gun. Tank Machine Guns ONLY.
  - 4) IPBC (West side ONLY) Tank and BFV Machine Guns ONLY.
  - 5) SCALED Range (located in TA05 south of Ferrell Lake). DRY and BLANKS Gunnery Tables. This range has a maximum target distance of 1000 meters.
    - (a) Send Target Matrix requests to ATS. This range is remote control operated.
    - (b) Units will hand receipt the Remote Control from ATS.
- b. Live Fire Target Matrices must be submitted to Range Control **NLT 90 days prior**.
- c. Request for Tank and BFV scenario changes must be submitted **NLT 72 hours prior**.

#### 8-2. Tank/BFV Firing Conditions

- a. Tank/BFV cannon will not be fired above 5 degrees QE. The following procedures will be employed:
  - 1) Unit master gunners, in conjunction with Range Control personnel, will ensure that targets are placed at or less than 5 degrees elevation. Tank/BFV Commanders will ensure that all weapon systems in a firing condition are pointed toward the impact area at or less than 5 degrees elevation.
  - 2) Non-stabilized tank armament will not be fired while the tank is moving.
- b. Misfires and malfunctions will be handled according to the appropriate TMs.
- c. The OIC and RSO will ensure that a range specific safety briefing is given to crews and range support staff prior to live-fire operations.
- d. When Lasers are in use on a range, the OIC will ensure that:
  - 1) All personnel are thoroughly briefed on safety precautions.
  - 2) Lasers are kept "off" at all times, unless the vehicle has received permission to load weapons.
  - 3) To prevent accidental firing of the laser, the ballistic doors will be closed when the laser is not in use.
  - 4) Ballistic doors will be closed before moving the vehicle to the rear of the bore sighting line, or into the parking area.
  - 5) The use of LRFs equipped with eye safe filters over the emission port is authorized in all Training Areas.
- e. Environmental containment materials (Spill Kits) will be available on all mounted ranges and during refueling operations.

#### 8-3. Firing Vehicle Status Designations

- a. During daylight and good visibility, flags or lights will be displayed on firing vehicles. At night and during reduced visibility, lights will be displayed. The following color scheme is recommended:
  - 1) Yellow: Vehicle has malfunction. Yellow is used only in conjunction with red or green.
  - 2) Red and green: Vehicle is preparing to fire or the crew is performing a non-firing exercise. Weapon systems are clear, but not elevated.
  - 3) Red and yellow: Vehicle has a malfunction or misfire. Weapon systems are not clear and are pointed downrange.
  - 4) Green and yellow: Vehicle has a malfunction. Weapon systems are clear.
  - 5) Red: Vehicle engaged in firing. Weapons must be pointed at the target area.
  - 6) Green: All vehicles' weapon systems are clear and elevated. Any live ammunition in the vehicle is properly stowed.
- b. Once a firing vehicle begins a battle run and passes the start fire line, all weapon systems are considered to be loaded and ready to fire.

c. When the firing vehicle completes a battle run, the vehicle commander will ensure that the weapon systems have been cleared, and that the proper flags or lights are displayed.

d. Vehicle commanders will ensure that the weapon systems are aligned within the envelope of the vehicle's width before leaving the range.

#### **8-4. Sub-caliber Tank/Fighting Vehicle Gunnery Devices**

a. When utilizing these devices, the weapon system and ammunition **MUST** be reported in the Unit's Target Matrix.

b. Unit must also include these in the RFMSS Reservation.

c. This will ensure the correct SDZs are drawn for the range.

#### **8-5. Grenade Launchers**

a. Firing conditions

1) SDZ occupation by unprotected personnel in the open is prohibited.

2) Grenades will not be fired into strong head winds (12 mph or greater).

3) PPE Level 1 will be worn by personnel within the SDZ.

4) Clothing will fit snugly to prevent red phosphorous fragments from getting inside clothing, particularly around the neck, ends of sleeves, and pockets.

b. Personnel are prohibited from occupying the following hazard areas:

1) 125 meters in front and to the sides of the vehicle.

2) 50 meters to the rear of the vehicle.

#### **8-6. Close Support of Ground Personnel in Live-Fire Exercises**

a. Firing overhead of unprotected personnel by Tank and Fighting Vehicle main guns is prohibited.

b. Tank/ Fighting Vehicle weapons systems may be used to provide flanking fire, if unprotected personnel remain out of the SDZ.

c. Only personnel wearing single hearing protection are allowed on the range.

d. Nonparticipating personnel will be restricted from areas 10m to the sides and from all areas forward of the vehicles.

#### **8-7. Weapons Effect Signature Simulator**

Personnel within 25 meters of the simulator will wear approved single hearing protection. Eye protection will also be worn.

#### **8-8. Hazardous Impulse Noise Exposure**

a. The driver's hatch **MUST** be closed tight at all times when firing the main weapon.

b. Only personnel wearing approved single hearing protection will be allowed within 355m of a tank during main gun firings.

c. Vehicle Crew Examiners or other personnel are not authorized to be on the outside of a firing Tank or Fighting Vehicle.

#### **8-9. Use of Jump Radios**

Per FM 3-20.21 HBCT Gunnery, Jump Radio communication is only **required** while performing the Gunnery Qualification Tables. The Crew Evaluators utilize this radio to ensure that proper commands are being given and crew procedures are being followed. Jump Radio usage during any other type of gunnery table is not required.

## Chapter 9

### Mortars

#### 9-1. Firing Conditions

a. Firing Mortars over the heads of unprotected troops by Army units is not recommended. Mortar ammunition must be certified for overhead fire of unprotected troops. The senior commander may approve overhead fire of unprotected troops with certified overhead fire mortar ammunition on the basis of acceptable level of risk. Procedural controls to prevent human error (for example, dedicated observer-controllers with the unprotected troops and firing mortars with dedicated communications) will be included in the risk management process.

b. Firing Mortars over the heads of troops by Marine Corps Units is not authorized except when firing the Expeditionary Fire Support System (EFSS) M327 120mm rifled towed Mortar. For the Marine Corps, mortars must be fired at the edge of a high hazard impact area. Requirements for overhead fire using the 120mm rifled towed mortar can be found in chapter 10.

c. Overhead fire is allowed when Soldiers are in tanks with hatches closed 100 m or more from the line of fire.

d. All personnel who take part in mortar firing will wear, for the Army, a minimum of body armor, and helmet; for the Marine Corps, PPE Level 1. Refer to table 2–2. At the Commander's discretion, the gunner may remove their protective helmet while sighting the mortar. All personnel within the hearing hazard zone for the mortar, cartridge, or charge increment used will wear approved single hearing protection. The hearing hazard zone is usually defined in the manuals for the mortar or cartridges. If the hearing hazard zone information cannot be determined, single hearing protection will be required within 200 m.

e. Propellant increments removed from rounds before firing will be placed in metal or wooden covered (waterproofed) containers located outside the firing vehicle or positioned a distance of at least 25 m from the firing point when firing dismounted. Unused powder increments must be safeguarded and handled in accordance with Installation range and environmental regulations.

g. No mortar cartridges will be fired in the hand-held mode with a charge greater than charge 1.

i. When firing the 120mm mortar from the carrier, all crew members and personnel inside the carrier must wear double hearing protection. Double hearing protection is required regardless of the carrier ramp position (opened or closed). Double hearing protection is defined as any approved earplugs plus either a CVC helmet or a communication aural protective system/artillery communication aural protective system with personnel armored system for ground troops helmet. Personnel outside the carrier within 200 m must wear single hearing protection.

j. Crew members and all personnel within 5 m of the 120mm mortar must wear double hearing protection when firing.

k. When firing the 120mm ground mount and carrier mount configuration, using the M933E1 HE cartridge, all personnel within 5 m of the mortar are required to wear double hearing protection. Exposure is limited to 140 rounds in any 24 hours.

l. Firing restrictions and limitations in TM 43–0001–28 apply to all cartridges and fuzes. Marine Corps fires will observe restrictions in TM 08655A–10A for light armored vehicle-mortar variants.

m. The target engagement distance will not be less than the distance required for Area B of the respective caliber of mortar to be fired, unless fired from protected positions.

#### 9-2. Surface Danger Zones

a. The 25 degree angle for Area A must be increased to 70 degrees when firing HE ammunition at ranges equal to or less than 600 m for 60mm mortars; 940 m for 81mm mortars; and 1500 m for 120mm mortars. Only the personnel required to fire the mortar system are authorized to be within this area.

b. Only the mortar crew are authorized to be in Area A.

#### 9-3. CRTC Specific Guidelines

a. Mortars are authorized to fire from any location approved by Range Control. Firing Points are no longer mandated to be on the Impact Area boundaries, per DA PAM 385-63.

- b. Units must reserve the Training Area that the Firing Point will be located in **NLT 90 days prior** to the event. Notify Range Control as soon as possible to allow for Surface Danger Zone creation and approval.
- c. The supporting OP **MUST** be Open with Range Control prior to opening the FP.
  - Separate OP locations are not required if collocated with MFP and rounds can be observed.
- d. Firing Point OIC **MUST** have a copy of the RMTK SDZ Layout Sheet at the FP.
- e. Excess increments must be burned as soon as possible.
- f. Increment burning location must be 1200m away from the Installation boundary, and 200m away from personnel and/or vehicles.
- g. Burning crew must carry a sufficient quantity of water (10 gallons minimum) and a shovel.

# Chapter 10

## Artillery

### 10-1. General

This chapter includes policies applicable to MLRS/HIMARS, Field Artillery Cannons, and Forward Observers as they apply to conducting training at Camp Ripley.

- a. Battalion Commanders ensure, in writing, that necessary personnel have been certified prior to conducting live fire, per DA PAM 385-63, Paragraph 10-2.
- b. The OIC/RSO must be present at the firing position while live fire is being conducted.
- c. All personnel immediately engaged in artillery operations will wear a minimum of PPE Level 1 IAW DA Pam 385-63, Table 2-2.
- d. The supporting OP must be "Open" with Range Control and have the ability to view the Impact Area prior to a firing unit requesting to open. Firing will cease when visibility is less than 1/2 mile, unless radar is available. If radar is used to observe rounds, it must be set to observe point of impact (friendly fire).
- e. Powder burning: when burning excess powder bags, all personnel, vehicles, and weapons shall maintain a minimum distance of 200 meters from the burning area and a minimum of 1,200 meters from Camp Ripley boundaries.
- f. Key personnel, including OIC/RSO, will be familiar with all applicable Ammunition Information Notifications (AINs), Safety of Use Messages (SOUms), and Regulations.
- g. RSO will ensure the most current versions of the following manuals are accessible at the unit location:
  - 1) DA Pam 385-63; Range Safety
  - 2) Current Camp Ripley Range Regulation
  - 3) TC 3-09.8 Field Artillery Gunnery
  - 4) Applicable Training References (3-09.40, 3-09.50, 3-09.60, and 3-09.70)
  - 5) AFATDS/Centaur Operator manuals
  - 6) TM 43-0001-28
  - 7) TM for weapon system
- h. With an approved Exception to Policy Request, the BN HQ may perform Hourly Communication Checks with Range Control for subordinate firing units, as long as communication is maintained and information can be relayed quickly from Range Control to the subordinate units and back. The OIC for the subordinate firing unit must still open and close the firing point with Range Control.
- i. All artillery pieces must be located a minimum of 200m from Installation boundaries, unless an ETP has been approved by the RCO.
- j. All personnel performing safety duties and checks are required to have a copy of Safety T Data. A system for controlling, distribution, and collection of Safety T Data to safety personnel must be enforced to ensure that only current data is being utilized.
- k. Maximum Ordinate for High Angle fire is 26,000 feet, per the FAA ZMP R-4301 Regulation. No exceptions.
- l. Artillery Units must coordinate TA usage with affected Maneuver Units prior to occupation. Coordination is normally done during Annual Training season (May-August) at the daily 0830 Range Control AT Coordination Meeting.

### 10-2. Firing Incidents

- a. "CHECK FIRING, CHECK FIRING, CHECK FIRING" will be announced by any person witnessing an unsafe act or condition. Cite nature of the Check Fire. Suspend all firing until unsafe condition has been corrected.
- b. All fired projectiles must be observed, accounted for, and land within established impact areas.
- c. Any projectiles fired outside the safety limits, including unobserved rounds, require immediate action and investigation, as outlined below to determine the cause.
  - 1) OP notifies FA units and Range Control of firing incident.
  - 2) All FA Units Check Fire until the responsible unit has been identified.
  - 3) Responsible unit follows procedures per the Range Control Accident/Incident Checklist.
  - 4) Maintain continuous communication with Range Control throughout the investigation process.

### 10-3. Field Artillery Cannon Safety

- a. Before firing, the OIC and RSO will complete the Artillery OIC and RSO Checklist located in the Range Control SharePoint Document Library, or at:  
<https://ngmns-sharepoint/CRTC/Sections/OPS/Sections/Range/Shared%20Documents/Range%20Regulation/Artillery%20OIC%20and%20RSO%20Checklist.pdf>. This checklist is a range inspectable item.
- b. The RSO will ensure proper use of the following equipment:
  - 1) Firing Chart w/RDP and plotting square
  - 2) Applicable TFTs and GFTs
  - 3) Properly functioning AFATDS and/or CENTAUR with secondary check capability
  - 4) Camp Ripley map
  - 5) Serviceable Gunner's Quadrant
  - 6) Primary and secondary method of laying howitzer
- c. OIC and RSO ensure Area E is clear of all personnel. Road guards with communications to the FDC will be posted on all major roads passing through Area E. Area E for Camp Ripley is as follows:
  - 1) 105mm: 300m
  - 2) 155mm: 350m
- d. The following charges are restricted for use on Camp Ripley:
  - 1) MACS Charge 4H or higher
  - 2) 155mm Charge 3 White Bag
  - 3) 105mm Charge 7 White Bag
- e. The minimum QE for 105mm and 155mm howitzer indirect fire is 267 mils.
- f. FDCs are required to apply either MET + VE or registration corrections to artillery cannon firing data.
- g. Howitzers will go through a Survey Control Point and complete a Navigation update every 16 mi/27 km.
- h. All non-AFCS (Automated Fire Control System) weapons will be located within a 200-meter radius of the reported Firing Point Grid.
- i. All targets will be physically plotted on a firing chart.
- j. Firing Positions are Charge restricted; only fire one Charge from each Firing Point.

### 10-4. Camp Ripley HINE/LINE Artillery Firing Point Program

Camp Ripley promotes the use of a Non-Established Firing Point Program to determine FA Safety known as Hendrickson Impact Non-Established (HINE) or Leach Impact Non-Established (LINE). The intent of the HINE/LINE Program is to safely allow Unit Commanders maximum flexibility in maneuver and occupation of any location within a designated TA, without regard to utilizing established firing points or range safety cards.

- a. Authorized HINE Training Areas: 1 (west of grid line 9330); 2 (north of grid line 06); 4 and 5 (east of the 9020 grid line) with the left azimuth of no less than 6376 mils; 8; 9; 10 (west of grid line 9330); 15; 17 thru 20; 21 thru 25 (**105mm ONLY**); 29 thru 33; 35; 37 thru 45; 48; 50 thru 55; 68 thru 71; and 79 (below grid line 31).
- b. Authorized LINE Training Areas: 18 thru 23; 36 (Lake Alott area only); 40 thru 45; 49; 50; 54 thru 59; 61 thru 64; 68 thru 71; and 79 (below grid line 31).
- c. HINE/LINE procedures for FDCs:
  - 1) Draw appropriate HINE or LINE circles on firing chart. All artillery rounds must fall within these circles.
    - (a) HINE Circle: 1000m radius from grid UM 89981689.
    - (b) LINE Circle: 760m radius from grid UM 92282527.
  - 2) Draw HINE or LINE Maximum Canister to Impact Circles on firing chart. Base ejecting canisters cannot exceed this limit.
    - (a) HINE Circle: 1400m radius from grid UM 89981689.
    - (b) LINE Circle: 1400m radius from grid UM 92282527.
- d. RECON or Advance Party selects a Firing Point within the TA they intend to occupy. Verify Firing Point Grid using:
  - 1) Survey (iPADS).
  - 2) Two DAGRs set to Averaging Mode, FOM 1, 200 hits.

- e. FDC plots surveyed firing point on firing chart. All safety data will be computed from firing point grid.
- f. All howitzers remain within authorized distance from firing point grid.
- g. Draw left/right and min/max safety box limits from firing point. Safety Box limits must remain within HINE/LINE circles.
- h. Compute safety data using safety box drawn above.
- i. FDO selects most appropriate charge.
- j. High Angle fire is recommended for Illumination safety data due to restrictions on range and canister to impact.

**Note: It is recommended to either issue a move order for the base piece howitzer to the surveyed firing point grid (locate base piece on firing point), or to create a “ghost” gun using the surveyed firing point grid in order to bump the firing chart data with the computer data (+/- 3 mils deflection, +/- 30 meters range).**

k. RMTK Surface Danger Zone (SDZ) Layout Sheet will be generated and issued to Units when the HINE/LINE Program cannot be used. The Unit MUST locate the Base Piece on this Firing Point Grid.

#### **10-5. AFCS Equipped Howitzer Specific Safety Requirements**

- a. Safety Data is valid for AFCS equipped howitzers within a 750m radius of the Firing Point Grid.
- b. Center of Radius Grid and Firing Point Grid are considered to be the same point.
- c. FDC will conduct a Dry Fire Verification with each howitzer prior to firing the first round from each position.
- d. Paladin Units may travel with fuzed ammunition (only HE/PD) when the onboard fire extinguisher system is operational.
- e. Unit Commanders assume all risk when deviating outside Safety-T Limits.
- f. Under no circumstances will a Unit deviate from Safety-T Limits while performing in degraded operations.
- g. Follow all other instructions listed in this Chapter.

#### **10-6. Direct Fire Safety**

- a. Field Artillery may be fired in the direct mode from J Range into Hendrickson Impact Area, or from K Range into Leach Impact Area.
- b. Maximum Charge is 1L.
- c. Minimum Target distance
  - 1) 105mm=650 meters
  - 2) 155mm=750 meters
- d. OIC will draw the appropriate Range Packet from Range Control and utilize the Artillery/Mortars Range Opening/Closing Checklist to open the range.
- e. All Direct Fire ranges will be given the RMTK SDZ Layout Sheet. This is an inspectable item.
- f. Artillery Direct Fire ranges do not require an OP to be associated with that range.

#### **10-7. Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS)**

- a. TAs containing the planned Firing Points must be reserved in RFMSS **NLT 90 days prior** to the event. Range Control must be notified at the same time, so SDZs can be created, reviewed, and approved.
- b. Hendrickson Impact Area center mass grid is UM 90201654.
- c. Leach Impact Area center mass grid is UM 91822529.
- d. For the OPAREA Method, there are two established Operation Areas on Camp Ripley:
  - 1) East Range-firing into LEACH Impact Area
  - 2) Arno DZ-firing into HEND Impact Area
- e. For both MLRS Firing Methods, the Unit will be firing with the data from the Range Control created SDZ. The range OIC must have a copy of the RMTK SDZ Layout Sheet at the FP. It is an inspectable item.
- f. General firing conditions
  - 1) Only M28A1 Reduced Range Practice Rocket (RRPR) can be fired on Camp Ripley due to the size of the Installation and the Impact Areas.



- 2) The RRPR is not certified for overhead fire. All non-mission essential personnel will be cleared from the entire SDZ.
- 4) Meteorological Data supplied to the Fire Control System will not be more than 4 hours old.
- 5) Position Determining System Data must be verified as correct. Ensure that the Launcher is properly calibrated, updated with a verified survey control point, and that start-up data are correct.
- 6) Firing will not be conducted if:
  - (a) There is any question of proper operation of the Launcher.
  - (b) The winds have changed dramatically since MET Data was taken.
  - (c) The fire Control Panel shows that internal tests were not completed properly.
  - (d) Any other sign of abnormal operation is evident.
- g. Safe Separation Distance between Launchers firing simultaneously from a single firing point is 55 meters. This distance is based on Net Explosives Weight for Launchers containing two full rocket pods.
- h. Area F is the area immediately to the rear of the Launcher directly exposed to blast overpressure, fragments, and debris from rocket launcher. Area F extends 350 m on each side of the launcher, and 400 m to the rear of the launcher. Personnel are prohibited from occupying Area F during firing.
- i. A Noise Hazard Area extends an additional 500 m past Area F, and may only be occupied by mission essential personnel wearing approved hearing protection.

#### **10-8. Forward Observers (FO)**

- a. Established OPs are listed in paragraph 2-9 of this Regulation. Use of an Un-Established OP is authorized, as long as rounds can be observed. The TA must be reserved in RFMSS.
- b. All FOs are required to have safety fans for the units they are supporting.
- c. OPs must be "OPENED" with Range Control prior to the battery they are supporting.
- d. Any projectile that bursts or lands outside safety limits, or any unobserved rounds, will require immediate action and investigation.
- e. A red flag (and blinking red light at night) must be displayed while the OP is open.
- f. Hourly (on the hour) Communication Checks must be performed while fire missions are being conducted. When fire missions are completed, the OP will revert to a Non-Live Fire range status, and will only be required to monitor the radio.

#### **10-9. Observation of Rounds**

- a. Radar will be used, in conjunction with forward observers, when visual observation is limited/restricted. The radar operator will operate in the "Friendly Fire" mode, and the time interval between rockets for multiple round missions will not be less than 30 seconds (if only radar is used).
- b. Rounds/Rockets not observed, or observed Out-of-Safe, will be reported immediately to Range Control. The Unit will place itself in Cease-Fire until a determination of the problem resulting in the unobserved, or out of safe, round/rocket has been identified.

#### **10-10. Restrictions on Firing White Phosphorus (WP)**

- a. WP is prohibited in all wetland areas within the Leach and Hendrickson Impact Areas.
- b. WP will not be fired directly into, or within 100 meters of, or have airburst directly over, wetland areas. The wetland areas, including the 100-meter buffer zone, are identified on a map at Range Control.

#### **10-11. Restrictions on Firing M1122**

- a. Use of the M1122 training round for 155mm Field Artillery units is allowed with a minimum QE of 267 mils in the below listed training areas.
- b. Authorized training areas for the HINE program are: TA1 (west of gridline 9330), TA2 (north of gridline 06), TA4-5 (east of gridline 9020, left azimuth no less than 6376, TA18, TA52, TA54, TA 68-71, and TA 79).
- c. Authorized training areas for the LINE program are: TA18, TA20-23, TA44, TA54, TA69, and TA79 (below gridline 31).
- d. Direct fire with the M1122 is only authorized on J Range.
- e. Remaining TAs can be used but have QE restrictions as follows: min QE of 575 mils when firing M231 (charges 1L and 2L) and min QE of 500 mils when firing M232 or M232A1 charge 3H.
- f. When firing the M1122 and using an SDZ from CRTC Range Control the QE restriction is no longer required.

## 10-12. Restrictions on Firing PGK

- a. Coordination with Range Control must be done a minimum of 90 days prior to firing M795 HE with the PGK.
- b. An SDZ will need to be drawn for the firing point that is selected and all howitzers must be within 200 meters of the firing point.

# Chapter 11

## Aviation Range Safety

### 11-1. General

- a. Aircrew requirements.
  - 1) All aircrew operating within a Range/Training Airspace Complex shall participate in a Range Safety Briefing and understand the Installation Range Regulation prior to operating within the Complex.
  - 2) Aircrews shall take all measures necessary to ensure they conduct training within assigned SUA or other authorized Operating Areas, and that all effects are contained within Range Complex boundaries.
- b. Scheduling.
  - 1) All aviation operations conducted within a Range/SUA shall be scheduled with the scheduling activity (RFMSS).
  - 2) SUA will be scheduled via RFMSS for all air-to-ground operations.
- c. Communications.
  - 1) Two-way communication will be maintained between the range, ROZ or training area OIC and Range Control.
  - 2) Two-way communication will be maintained with Miller Army Airfield for all aircraft flying within R-4301, with exception of SUAS who will maintain contact with Range Control throughout their training area specific ROZ occupation.
  - 3) In the event a pilot needs to contact Range Control directly, utilize FM 36.100 (Primary) or 40.400 (Secondary).
- e. Parachutes.
  - 1) The Unit using the Drop Zone (DZ) is required to physically clear the DZ 24 hours prior to use to ensure no obstacles or hazards are present. The Unit will ensure the DZ has a current survey for the operations being conducted.
  - 2) Parachute aircrew and DZ personnel shall maintain communications with Range Control.
  - 3) DZs will be confirmed clear and closed before commencement of parachute or parachute operations.
- f. Joint Precision Airdrop System (JPADS).
  - 1) The unit dropping the load is responsible for using JPADS Mission Planning software before they fly the mission.
  - 2) Range Control will approve Improved-Container Delivery System deliveries only if the Precision Airdrop System-Mission Planner derived Point of Impact, the 3-Sigma Footprint for chute failure, and the guidance failure footprint overlay on government owned, leased, or otherwise controlled land with no unauthorized personnel present, and a collateral damage estimate acceptable to Range Control.
  - 3) Equipment, facilities, and participating personnel are permitted within the 3-Sigma success, chute failure, and the guidance failure footprints as long as the Unit has conducted and Range Control has approved an Operational Risk Assessment.
  - 4) JPADS users may desire to update weather observations by dropping a Sonde (foot long metal wind sensor) for wind updates in order to revise footprint analyses up until the time of delivery.
- g. Countermeasures.

The use of Chaff/Flares will comply with local Range Regulations/SOPs, FAA requirements, and in accordance with Aircraft TMs.

### 11-2. Firing Operations, General Requirements

- a. Weapon Danger Zones (WDZ).
  - 1) Air-to-ground delivery of munitions can be accomplished from a variety of platforms to include fixed wing (FW), rotary wing (RW), and Unmanned Aircraft Systems (UASs). The hazardous zone associated with these munitions will now be generated through the use of the WDZ tool that can provide a WDZ for

all aviation delivered ordnance. The Wdz is modeled to represent the distribution of impacts, ricochets/broaches, and the vertical hazard associated with fragmentation and the ricochet.

2) The three-dimensional aspect of munitions delivery can present many challenges when determining the safe location of personnel and facilities operating on the ground. RMTK advances in computer modeling, programming, software, and improved risk analysis provided by the Wdz tool enables RMAs (Army), RCOs (Marine Corps) to reduce risks to personnel and facilities involved with aviation operations.

3) RMAs (Army), RCOs (Marine Corps) must employ safe management practices that provide the visibility and control required for the integration of both air and ground operations. The use of the Wdz Tool supplemented with an aggressive risk mitigation program will help reduce the complications and dangers associated with this training.

b. Aircrew currency qualifications for aviation weapons delivery.

1) Army.

a) During firing, qualified standardization instructor pilots or instructor pilots having immediate access to positive control of the aircraft and weapon systems being fired will accompany pilots and gunners who are not current and qualified in the aircraft.

b) Qualified nonrated crew member flight instructors or nonrated crew member unit trainers having immediate access to the weapons systems being fired will accompany door gunners who are not current and qualified.

2) Marine Corps. Marine pilot and aerial gunners will demonstrate flight and weapons system proficiency in accordance with the appropriate TMs/Training and Readiness manuals.

c. Aircrew weapons qualifications for aviation weapons delivery.

1) Pilots and gunners will successfully complete an approved qualification course or qualification or transition training in accordance with an approved program of instruction.

2) Pilots and gunners will demonstrate flight and weapon systems proficiency in accordance with TC 3-04.11, TC 3-04.3, FM 3-04, and the appropriate aircrew training manuals.

d. Communications.

1) All firing elements must maintain positive two-way communications with the OIC.

2) Firing will be suspended immediately upon loss of communications with the range operations firing desk (Army), range control (Marine Corps), the OIC, or firing elements.

3) Command and control aircraft may be used at the commander's discretion.

e. Night operations.

1) Night range operations present unique challenges to both the aircrew and the OIC. Visual cues are greatly reduced, even with the use of night vision devices (NVDs).

2) OICs should use NVDs during night operations and have access to a minimum of Generation III NVDs.

### **11-3. Firing Conditions, General Procedures**

a. General.

1) Pilots and gunners will be familiar with the Impact Area boundaries, firing limits, and specific Range SOP on which they will fire.

2) The firing aircraft pilot in command will ensure that firing aircraft are properly oriented with the target and are safe to fire.

3) For FW operations: If the OIC cannot positively determine that the aircraft can release safely, the OIC will delegate ordnance release clearance to a qualified flight lead, individual pilot, forward air controller, or other briefed person. The OIC will maintain overall authority on the range for the training event and can abort the release or direct a Cease Fire at any time. In all cases, the pilot assumes sole responsibility for the safe release of ordnance and confirmation of the approved target.

4) For UAS operations: The Mission Commander will maintain the responsibility for the safe operation of payload and platform.

5) All Live-Fire training must be observed.

b. Armament safety procedures.

1) Aircraft weapon systems will be loaded or unloaded only in approved areas. Selection of these areas will ensure total containment in the event of accidental discharge. The weapon systems dispersion angle and maximum range will be considered if natural or manmade barriers are not used.

2) Airspace routing used by RW aircraft flying from the ammunition loading site to and from the firing range will be plotted on a map or chart and maintained by both the using unit and the Installation range operations office. This course will be selected so that accidental firing at any point on the course will minimize risk to life and property, however, aircraft weapon systems will be maintained in a safe condition until within the range boundary. RW aircraft routing from the ammunition loading site to the firing range will be published in local SOPs.

3) When training requirements dictate, commanders (battalion, squadron, or higher LTC/O5) will direct the loading and unloading of ammunition from aircraft while the engines are running. Such operations are authorized when a thorough risk assessment has been conducted, control measures implemented and residual risks identified and accepted by the appropriate commander.

4) A dry pass or range sweep for the entire range, focusing on the target area, will be accomplished to ensure personnel are clear from hazardous effects. Aircraft may use onboard sensors (advance targeting pods, sniper, lighting), or UAS targeting payload in lieu of a dry pass. Terminal controllers observing the target area may waive the dry pass.

5) Prior to first weapons release/firing for each pass, final switch configuration will not be accomplished until the aircraft is in such a position that accidental activation or release will be contained within the range, and not represent a danger to ground personnel.

6) Aircraft will be a minimum of one switch position (excluding trigger) away from weapons release/firing when not oriented toward the target area unless approved by range operations (Army). Switch manipulation shall not occur until after safe recovery of weapons delivery/firing. RW aircraft will be in a safe condition prior to departing an aerial firing point unless otherwise directed.

7) Prior to leaving a range area, FW aircraft will conduct a hung ordnance check. If hung ordnance remains on board the aircraft due to malfunction, loss of range time, and so forth, then ensure compliance with local restrictions to avoid undue risk for the return flight. For RW aircraft, the pilot in command shall ensure that all weapon systems are clear of ammunition prior to departing the range. Upon completion of training, aircraft weapon systems will be safed in accordance with aircraft TMs before leaving the range.

8) Crash Rescue personnel will be knowledgeable of safety precautions associated with armed aircraft and impact areas and the hazards associated with burned aircraft (for example, radioactive and advanced composite materials).

c. Hung ordnance and jettison areas.

1) Range operations will ensure all aircraft report ordnance expended, hung ordnance, and UXO locations to the range operations firing desk prior to departing the range.

2) Installation SOPs and range directives will designate ordnance jettison and emergency landing areas for use by aircraft experiencing weapons malfunctions or in-flight emergencies. Jettison areas will be located such that maximum protection is provided to personnel and range facilities in case the jettisoned ordnance detonates.

d. Fuel spill materials (spill kits) will be available at forward arming and refueling points. Fuel tankers used to refuel aircraft will be equipped with sufficient absorbent material to handle small to moderate spills.

e. Commanders will develop and implement an aggressive program to ensure crew coordination and combat identification procedures concurrent with the Gunnery Training Program. For the Army, combat identification training will be conducted IAW TC 3-04.11, TC 3-04.3, FM 3-04, and other appropriate Air Crew Training Manuals.

#### **11-4. Firing Conditions, Specific Requirements**

a. Running fire. When conducting running fires, cockpit displayed graphics, ground markers, or prominent terrain will be used to mark start and cease fire lines.

b. Hover fire. When conducting hover fire, the firing position will be marked. If possible, hover fire should be conducted over level terrain free of flight hazards (for example, dust, brush, trees, blowing debris). Natural or manmade features will be used to aid in the establishment of range boundaries and control measures.

c. Markers. When used, markers will be illuminated and/or thermalized when thermal weapons sights are used to ensure proper target area identification at times of limited visibility when required. Additional ground markings will be used at the discretion of the Commanding Officer or the range OIC. Adjacent

ranges within a range complex that support aviation live-fire should be marked or lighted to facilitate aircrew identification of their assigned range.

d. Rotary wing flanking fire.

1) RW gun and rocket weapon systems will be used to provide flanking fire, as shown in DA PAM 385-63, figure 11-1, when a minimum lateral distance of 100 m or 15 degrees between exposed troops and firing aircraft gun target line is maintained. Additionally, exposed troops must be positioned outside the WDZ/SDZ footprint.

2) Positive means will be employed to ensure that the firing unit knows the location of the maneuver units while fire support is being provided.

3) Only non-explosive projectiles will be used for RW flanking fire.

4) The route and location of maneuver units and the firing aircraft providing flanking fire support will be described and briefed in detail. The use of cockpit displayed graphics, and/or recognizable natural/manmade terrain features, and other means of friendly position marking will be used by exposed troops.

5) Firing aircraft must positively identify the front line trace of exposed troops prior to engagement.

e. Rotary wing/tilt rotor door gunnery operations.

1) Door Gunnery operations will be conducted according to the appropriate Gunnery Manuals (TC 3-04.3 for the Army). Marine Corps units will follow the procedures established in the Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) Aerial Gunnery Manual and appropriate tactical manuals for the specific type aircraft.

2) All personnel on the aircraft will wear at least single-hearing protection when firing weapons.

f. Rockets.

1) Training operations. Training operations conducted in conjunction with Aerial Rocket firing must be suspended if winds or gusts exceed 30 knots.

2) Rotary wing aerial rockets. The launch angle in degrees equals launcher QE in mils divided by 17.7 plus the aircraft pitch in degrees. For articulating launchers, use the maximum articulated QE possible plus the aircraft pitch in degrees.

(a) Maximum launcher QE shall not exceed 160 mils.

(b) Maximum range of the 2.75-inch rocket with the MK66 motor is 12,000 m launched at 45 degrees and below standard air density.

(c) Firing of the M267 multipurpose sub-munition practice rocket is prohibited if crosswinds exceed 20 knots. The M75 practice sub-munition may be either inert or have an explosive spotting charge. Inert M75 sub-munitions are painted blue and have no ram air decelerator. M75 sub-munitions with explosive spotting charges are painted blue with a brown band and have bright yellow ram air decelerator. The dud M75 has a clean underside. The functioned M75 has soot and burn marks on the underside of the sub-munition body. An armed M231 fuse for the M75 is identified by a slider that sticks out from the sub-munition body about 1.3cm. This slider has a red tip and a "V" notch.

(d) Firing of the M261 HE multipurpose sub-munition rocket is prohibited in training by the Army only, and/or on Army ranges.

(e) Units using the 2.75" (70mm) aerial rocket are authorized to fire the M255A1 Flechette service munition on range complexes (such as a multipurpose range complex, multipurpose training range, digital multipurpose range complex, digital multipurpose training range, or digital air/ground integration range that support the SDZ. There is no requirement to limit firing of the M255 Flechette into permanently duded impact areas. The M255A1 presents a hazard similar to the M267 training rocket and is not inherently hazardous. Prudent safety measures and operational practices can minimize risks and burdens to range personnel. RMAs (Army), RCOs (Marine Corps) should identify specific moving armor targets and stationary armor targets for flechette engagements. Aviation crews will typically engage while conducting running fire and close to a range of 1,500 m to launch the munition. Selected targets should be in the most downrange third of the range complex. This will minimize expended flechette damage to vehicle tires and risks to range personnel. RMAs (Army), RCOs (Marine Corps) may employ magnet sweepers to clear expended Flechettes from highly travelled service roads. Flechette rockets that fail to function should be marked upon discovery and referred to EOD personnel for removal.

3) The following restrictions apply when firing the 2.75in folding fin aerial rocket with the M278 IR illumination warhead:

(a) The pilot/gunner will ensure that the M278 IR illumination warhead deployment occurs at least 1,500 ft AGL on training areas. Deployment of the flare below 1500 ft AGL significantly increases the risk of ground fires.

(b) The pilot/gunner will mitigate the hazard of spent rocket motor impact. The spent rocket motor impact point can be approximately 700 m to 1200 m beyond the point of flare deployment.

(c) When the rocket with the M278 warhead is fired in the vicinity of friendly troops and personnel in an uncovered position, ground personnel shall wear PPE Level 1.

(d) Pilots must exercise extreme caution when operating in the vicinity of IR illumination flares. Once the flare burns out, the flare container and parachute will not be visible during its decent.

g. Inertial aided munitions.

1) Inertial aided munitions are smart weapons, such as a GBU-38 joint direct attack munition, GBU-44 Viper Strike, or Griffin small tactical munition, that employ Global Positioning System as an inertial aid to acquire target location.

2) Aircraft employing inertial aided munitions in a bomb-on-coordinate mode or aircraft employing any ordnance in a system delivery mode on coordinates only will adhere to the following prior to release:

(a) Aircrew will confirm the accuracy of the aircraft navigation and weapon delivery systems. For the Marine Corps, aircrew will confirm aircraft health, weapon health, and coordinate in accordance with current MAWTS-1 or weapon school technical training procedures.

(b) Aircrew will ensure accurate receipt and entry of target coordinates and that they come from a valid target source. These coordinates will be verified via read-back from target data entry displays or will be cross-checked with mission planning data or range guides but must include one other person, in addition to the pilot, verifying coordinate/elevation accuracy (either in-flight or during mission planning). Examples of valid target sources include, but are not limited to RMAs (Army), RCOs (Marine Corps), Joint terminal attack controllers, range guides, or forward air controller-airborne qualified aircrew.

(c) Aircrew will use all means available to verify accuracy of target coordinates/elevation, and that the coordinates are within the anticipated target area. Examples of available means include but are not limited to forward looking infrared radar, synthetic radar aperture map, heads-up display cueing, other aircraft sensors, terrain pointer, map plots, data links, radio communications, talk-ons with JTACs, RMAs (Army), RCOs (Marine Corps), and other aircrew members.

(d) Aircrew will confirm and adhere to published range operating procedures and restrictions.

h. GBU-44 Viper Strike/Griffin. Both the Viper Strike and Griffin weapon systems have post-launch debris that will fall to the ground after the weapon is launched from the aircraft. This includes aft-launch tube covers, support brackets, and parachutes (Viper Strike). Although the probability of someone being injured by these lightweight items is low, it is recommended that the area below the launch point be cleared of personnel for a radius of 2,000 m.

## **11-5. Unmanned Aircraft Systems Considerations**

a. Operator/air mission commander requirements.

1) All Operators who control UAS platforms/payloads within Range Complex Training Airspace (RCTA) shall participate in a Range Safety Brief within 90 days of training and become familiar with Installation Range Regulations prior to operating within the Complex.

2) Air Mission Commanders who oversee UAS operations/training within RTCA shall participate in a Range Safety Brief and become familiar with Installation Range Regulations prior to conducting operations within the Complex.

3) Air Mission Commanders will take all measures necessary to ensure training/operations are conducted within assigned SUA or other authorized operating area and that Unmanned Aerial Vehicles and all effects (for example, munitions/laser) are contained within assigned boundaries.

4) UAS/SUAS Operational Unit Commanders shall ensure that all UAS performance, air worthiness and related requirements meet system safety standards prior to operating unmanned aerial vehicles within assigned range space.

b. Operator qualifications for platform/payload operations, aviation weapons delivery/terminal guidance.

1) Army.

(a) Operators will successfully complete an approved qualification course, or qualification, or transition training in accordance with an approved program of instruction.

(b) Operators will demonstrate platform, payload, and weapon systems proficiency in accordance with TC 3-04.62 and FM 3-04.11.

(c) Out of state unit requirements, to include meeting with a Master Trainer from MN to verify all requirements can be met, current maps given to unit and a site survey by Master Trainer or Airfield Manager prior to launch.

(d) Non-Department of Defense use of Army Restricted Airspace (R-4301) is restricted in accordance with Non-Department of Defense Use of Army Restricted Airspace 21 June 2013.

(e) COTS UAS operations within Class D/E/G airspace require the civilian operator and COTS UAS to be in compliance with FAA 14 CFR Part 107. COTS request must be submitted 120 days prior to training to be submitted to Dept of the Army for approval. Approvals can be granted for up to 180 days. For further information on COA see CRTC Aviation Procedure Guide (APG), Chapter 4.

2) Marine Corps. Marine operators will demonstrate proficiency in accordance with the appropriate TMS T&R manual.

c. Fielded systems.

1) Ensure Range Control personnel are familiar with the flight characteristics of UAS involved in range aviation operations.

2) For ordnance delivery, operate UAS in VMC and when the weather is forecast to remain VMC throughout the flight.

3) If operating with weapons, arm ordnance for delivery only when the aircraft is within the SUA and in a position from which, if released, the ordnance will remain within the designated impact area.

4) The UAS operator will notify the range operations firing desk (Army), range control (Marine Corps) and or OIC when the UAS has completed ordnance delivery and when departing the range.

5) The mission commander will maintain the responsibility for the safe operation of payload and platform.

d. Developmental/Experimental Unmanned Aircraft Systems. If the UAS has not yet been fielded, provide range operations (Army), range control (Marine Corps) personnel current reliability information and a "worst case" depiction of potential range, direction and SUA point of departure for developmental/experimental UAS in the event that loss of contact procedures fail.

e. Unmanned Aircraft Systems operations conducted outside restricted areas and warning areas. UAS operations conducted outside restricted areas and/or warning areas shall comply with the provisions of applicable FAA and DODDs, notices and current certificates of authorization or waiver.

#### 11-6. CRTC Specific UAS Procedures

a. UAS Training Requests must be submitted in RFMSS **NLT 90 days prior** to the event.

b. RFMSS requires three (3) Reservations to be scheduled for the same event:

1) The Ground Facility (MAAF or TA23 UAS Runway).

2) The lost link location (ground facility) must also be reserved.

3) The Airspace above the requested Ground Facility which will be the Launch Restricted Operation Zone (ROZ).

4) R-4301 MUST be reserved in addition to the first two Facilities.

c. To comply with FAA Regulations, Range Control MUST have a **minimum notice of 48 hours prior** to a previously unscheduled UAS Request to ensure proper scheduling of the ZMP R-4301 with the FAA.

d. UAS Mission Coordinators will be listed as such in the Commander's Safety Certification Memorandum to Range Control. This certification is valid for one year. There is no minimum rank requirement, as the Company Commanders' appoint MCs, per TC 3-04.62.

e. MCs must attend a Range Safety Briefing and sign a Range Safety Briefing Agreement prior to flight operations at TA23 UAS Runway.

f. MCs will utilize RC Form 44 UAS/SUAS Opening/Closing Checklist for TA23 UAS Runway only.

g. Range Control will treat the TA23 Launch ROZ the same as a live-fire range for ROZ Opening/Closing procedures only. Range Control must receive approval from MAAF Tower prior to opening the range.

h. Close and Clear the range with Range Control.

i. Prior to UAS flight an ATC brief and LOA must be completed with MAAF.

j. Follow additional guidance from the most current version of the CRTC Aviation Procedure Guide (APG).

#### 11-7. CRTC Specific SUAS Procedures

a. SUAS Training Requests must be submitted in RFMSS **NLT 90 days prior** to the event.

- b. RFMSS requires three (3) Reservations to be scheduled for the same event:
  - 1) The Ground Facility (Range or TA) that the MQ Operator will utilize as the Launch Point (LP).
  - 2) The Airspace above the requested Ground Facility which will be the Restricted Operation Zone (ROZ). All ROZ requests will be deconflicted with MAAF prior to approval. The ROZ's are generally circular in nature and will be depicted on daily range bulletins.
  - 3) R-4301 MUST be reserved in addition to the first two Facilities.
- c. SUAS can be flown anywhere in the FTA in an assigned ROZ except for the instances below:
  - 1) SUAS are not authorized to fly over Dedicated Impact Areas.
  - 2) SUAS are not authorized to fly south of Gridline 06. This is the southern boundary of the Restricted Airspace ZMP R-4301.
  - 3) SUAS will maintain two forms of communication with Range Control while occupying the ROZ. If communications is lost SUAS must be immediately grounded.
  - 4) SUAS are not authorized to fly within the Class D Airspace when it is Active. An Exception to Policy MUST be submitted to the MAAF Air Traffic and Airspace Officer **NLT 90 days prior** for review, deconfliction and authorization. If approved, a letter of agreement will be produced between Range Control, Airfield and unit.
- d. To comply with FAA Regulations, Range Control MUST have a **minimum notice of 48 hours prior** to an unscheduled ROZ Request to ensure proper scheduling of the ZMP R-4301 with the FAA. The requested ROZ must be one that has already been created and approved by Range Control. If not, the Request will be denied, or delayed until Range Control can create a new ROZ.
- e. SUAS will only operate inside their assigned ROZ.
- f. SUAS Mission Qualified Operators (MQ) will be listed as such in the Commander's Safety Certification Memorandum to Range Control. This certification is valid for one year. There is no minimum rank requirement, as the Company Commanders' appoint MQs, per TC 3-04.62.
- g. MQs must attend a Range Safety Briefing and sign a Range Safety Briefing Agreement prior to flight operations.
- h. Range Control will treat the ROZ the same as a live-fire range for ROZ Opening/Closing procedures only. The MQ will Open/Close the LP/ROZ with Range Control utilizing RC Form 44 UAS/SUAS Opening/Closing Checklist. Range Control MUST receive permission from Miller Tower/OPS to open the ROZ, prior to Opening the LP/ROZ, when active flights are indicated on the AAAS system.
- i. There are four instances in which SUAS Units operating within a ROZ must inform Range Control immediately:
  - 1) Upon initial occupation of the ROZ before the first flight.
  - 2) Any time the SUAS is flown outside of the ROZ and/or R-4301,
  - 3) In the event of a Lost Link
  - 4) Any time there is a suspected accident.

**MAAF Tower: COMM 320-632-7751**

**MAAF Operations (use when Tower is closed): COMM 320-616-2779**

- j. SUAS do not require a COA as long as the mission remains within the designated ROZ inside R-4301.
- l. Maximum density within the ROZ is "two" SUAS airframes aloft at one time.
- m. SUAS lateral limits are RESTRICTED to the designated Restricted Operating Zone.
- n. SUAS vertical limit is 1,500 feet AGL.
- o. The standard Lost Link point for SUAS is the Launch Point within the ROZ.
- p. Upon notification of a Lost Link, MAAF Tower shall:
  - 1) Issue advisories and ATC instructions as appropriate to insure the safe operation of all aircraft training in R-4301.
  - 2) Cease aircraft departures until status of affected SUAS/UAS is determined.
  - 3) Recover other SUAS/UAS as appropriate.

k. Unit will Close the LP/ROZ Facility with Range Control. Range Control will clear the Ground Facility on a case-by-case basis.



I. SUAS incidents may be considered an Army Aviation accident and must be reported accordingly. Units are responsible for reporting to their higher HQ in accordance with Army policy.

#### **11-8. Multi-Platoon SUAS Operations**

a. Multiple SUAS platoons may conduct training utilizing the same launch and recovery area provided the following minimum conditions are met (if approved).

b. Platoons must have conducted coordination and agree to the onsite location(s), frequency usage, and other established de-confliction standards and procedures deemed appropriate.

c. The SUAS will maintain at least 1,000' horizontal and/or 500' vertical separation from each other during the mission.

d. Prior to conducting a climb or descent, the SUAS platoon will coordinate with the other SUAS platoon to ensure they are clear of the designated climb/descent routes.

## **Chapter 12**

### **Air Defense Artillery Weapon Systems**

Due to Installation Boundary, Impact Area sizes, and required Surface and Aerial Danger Zone requirements, ADA Weapon Systems are not authorized to be fired on CRTC.

# Chapter 13

## Chemical Agents and Smoke

### 13-1. Chemical Agents

The use of lethal or incapacitating chemical agents in training is not authorized at CRTC.

### 13-2. Riot Control Agents

Except when prohibited by regulations or higher authority, Commanders may use Riot Control Agents (RCAs) in training, subject to the following:

- a. Use of RCAs in training is limited to 0-CS. All other RCAs are prohibited for training use.
- b. Use of RCAs in training requires supervision by personnel specially trained in field behavior, individual protection, and first aid for RCAs. Army personnel that meet these criteria are Chemical Officers (Branch Code 74), Chemical NCOs (MOS 54B), school-trained Chemical, Biological, Radiological, and Nuclear (CBRN) officers (SSI 3R) and NCOs (SQI C). Marine Corps personnel that meet these requirements are MOS 5702 CBRN Systems Defense Officer, and MOS 5711 CBRN Defense Specialist.

**These are the ONLY personnel authorized to supervise the Mask Confidence Course.**

c. RCAs will not be used under conditions that are dangerous to life or property. Minimum safe distances to heavily traveled Installation roads, railroad right of ways, airfields (including all aircraft landing areas), or inhabited areas are:

1) CS Chambers will be at least 100 m away from heavily traveled roads, 500 m from aircraft operations and inhabited areas, and 1,000 m from the nearest Installation Boundary, unless the CS Chambers are designed to contain and filter all CS gas.

2) Field training exercises involving RCAs will be 500 m or more away from public traffic routes, the nearest inhabited buildings, and 1,000 m from Installation Boundaries.

d. Prior to a scheduled RCA exercise, training supervisors must conduct a readiness evaluation of personnel. Before being exposed to RCAs, all personnel with respiratory ailments, recent eye surgery, or eye infections, open wounds, severe facial acne, or any active dermatitis, and pregnant personnel must be referred to a Medical Officer for evaluation. The Medical Officer will evaluate the health records of these individuals and, when necessary, examine the personnel to determine their readiness to undergo training without undue medical risk. The examination results (stating can/cannot participate in training with RCAs only) will be documented in the personnel medical records.

e. OICs and RSOs must ensure Protective Masks are available for all personnel participating in training.

f. When CBRN protective equipment is worn, the OIC/RSO will consider the additional heat stress placed on personnel. When using the wet-bulb globe temperature to determine the heat category, add 10 degrees Fahrenheit if personnel are in body armor and mission-oriented protective posture (MOPP) level two through four. High ambient temperatures, high humidity, and heavy workload are factors that increase the potential for heat injuries.

g. To reduce the heat stress risk, Commanders will:

1) Provide an ample water supply and encourage all personnel to drink plenty of water. OICs and RSOs will monitor personnel undergoing training to ensure personnel frequently drink water to replace lost fluids.

2) Reduce the MOPP Level under high heat stress conditions when possible.

3) Schedule additional rest breaks during training to allow personnel to cool off. These periods also can be used for critiques. Where possible, use vehicles to move personnel who are wearing protective equipment.

4) Ensure subordinate Commanders and leaders check their personnel for early signs of heat stress. Authorize frequent breaks while operating in protective equipment.

h. Wearing of contact lenses while masked is not authorized. Personnel who wear contact lenses must remove them and use standard prescription eyeglasses during chemical defense training that includes wearing the protective mask. Unnecessary eye irritation will occur if RCA particles are trapped under contact lenses. All individuals requiring corrective lenses must have masks with correctly fitted optical inserts.

i. Unprotected personnel will not be exposed to RCAs longer than 15 seconds.

**j. Coordination through Range Control must be made NLT 30 days prior to the release of any riot control agents.**

### **13-3. Employment Conditions**

a. CS will be used in training only under the supervision of an Officer or NCO who has received formal training in the characteristics, capabilities, and training applications of these agents.

b. Only CS in capsule form may be used in the CS Chamber.

c. For the Marine Corps, when CS is used in outdoor confidence courses, the RSO must have been trained in the CS chamber within the past year. The use of a 5702 CBRN Defense Officer and 5711 CBRN Defense Specialist is not required.

d. RCAs will not be released when personnel without proper respiratory protective equipment located downwind will be affected, unless exposure to a controlled concentration is desired. CS agents will not be released within 50 m of spectators.

e. Marine Corps personnel handling or dispensing CS capsules will wear MOPP level four.

f. Army personnel handling or dispensing CS capsules will wear rubber boots, protective mask with hood, and field clothing secured at neck, wrists, and ankles.

g. Individuals affected by RCAs will move to fresh air and face into the wind for 5 to 10 minutes, avoid rubbing the eyes, and remain well-spaced from other affected personnel. If accidentally exposed to an RCA, clothing will be removed from the affected skin as soon as possible. Flush the exposed area(s) with large volumes of cool water for not less than 15 minutes, and then seek prompt medical attention. If available, mild soap should be used to cleanse the contaminated skin.

h. Hot water should not be used when showering as it will raise the vapor point of the CS, resulting in further spreading of contamination.

i. When eyes are contaminated with a CS agent, treat them with a 1 percent solution of Sodium Bicarbonate (Baking Soda). If not available, hold the eyes open with fingers, flush with water for not fewer than 15 minutes, then seek medical attention.

j. Contaminated clothing will be removed from the area to prevent accidental contamination of unprotected personnel.

k. When RCAs are transported in Army or Marine Corps aircraft, compliance with AR 95–1, AR 95–27, MCO 4030.25B, and MCO 4030.40B is required.

l. For the Marine Corps, the following are requirements for all CS exercises, whether Garrison or Field training:

1) Corpsman or Medic with Unit 5 Medic Bag.

2) Designated safety vehicle with a driver who will not be in the chamber, but will have a protective mask on hand.

3) Instructors will be easily/readily identifiable while in the CS chamber.

### **13-4. Smoke**

The use of smoke in training poses special health and safety issues. The following precautions apply to all smoke training with Fog Oil, Hexachloroethane (HC), Red Phosphorus, WP, plasticized WP, Terephthalic Acid (TA), colored smoke, and diesel smoke.

a. Personnel will carry a protective mask when participating in exercises that include the use of smoke.

b. Personnel will mask:

1) Before exposure to any concentration of smoke produced by M8 white smoke grenades, M83 smoke grenades (TA), smoke pots (HC and TA smoke), or metallic powder obscurants.

2) When passing through or operating in dense (visibility less than 50 m) smoke such as smoke blankets and smoke curtains.

3) When operating in or passing through a smoke haze (visibility greater than 50 m) and the duration of exposure will exceed 4 hours.

4) Any time exposure to smoke produces breathing difficulty, eye irritation or discomfort. Such effects in one individual will serve as a signal for all similarly exposed personnel to mask.

5) When using smoke during military operations in urban terrain training or when operating in enclosed spaces. The protective mask is not effective in oxygen-deficient atmospheres. Care must be taken not to enter areas where oxygen may have been displaced.

c. Clothing is to be laundered and personnel will shower after exercises involving exposure to smoke. Personnel exposed to smoke should reduce skin exposure by rolling down their sleeves.

d. Special care must be taken when using HC and TA smoke to ensure that appropriate protection is provided to all personnel who may be exposed. When planning for the use of HC smoke in training, consideration must be given to weather conditions and the potential downwind effects of the smoke. Positive controls, (observation, control points, communications) must be established to prevent exposure of unprotected personnel. Detailed hazard information is available on the appropriate Safety Data Sheet(s).

e. FS (sulfur trioxide-chlorosulfonic acid solution) and FM (titanium tetrachloride) smoke will not be used in training.

f. Smoke will not be used in public demonstrations, displays, or ceremonies unless positive dissipation of the smoke can be assured and no exposure to the public or nonparticipating personnel is expected. A risk management plan will be developed by the agency conducting the public demonstration, in conjunction with the Installation RMA and Public Safety Director, for all uses of smoke in demonstrations, displays, or ceremonies.

### **13-5. Smoke Pots**

a. Personnel manually firing HC and TA smoke pots will mask and keep their head well to one side to the top of the pot and out of the way of sparks and flames to prevent burn injuries. Once HC and TA smoke pots have ignited, personnel will quickly move away a minimum distance of 30 m.

b. Precautions will be taken to prevent ground fires. HC and TA smoke pots will not be fired inside buildings, tents, or other enclosed areas because of fire and health hazards from associated fumes. Exceptions are buildings or structures specially designed for smoke training, and only after conducting a thorough risk assessment, developing and implementing controls, and acceptance of the residual risk by the appropriate Commander.

c. HC and TA smoke pots must be kept dry. Any addition of water to HC and TA smoke mixtures may cause it to burn erratically, explode, or result in spontaneous combustion. HC smoke pots will not be ignited during visible precipitation (snow or rain).

d. The M4A2 smoke pot must be vented for at least 5 minutes within 24 hours before use in accordance with TB 3-1365-490-10.

e. When electrically firing the M5 HC smoke pot, at least 30 m of WD-1/TT wire will be used.

### **13-6. Oil Smoke Candles**

Oil Smoke Candles (M6, SGF2) are used to produce nontoxic smoke in confined areas primarily to simulate fires in buildings or ships for fire drills and to train firefighters. The correct procedure for use is to place the candle on its base atop a stable platform away from combustible materials, pull the safety pin, and release the safety lever.

## Chapter 14

### Non-Lethal Weapons (NLW) and Simunitions

#### 14-1. Definition

##### From DA PAM 385-63:

Department of Defense Directive (DODD) 3000.03E defines Non-Lethal Weapons (NLWs) as "weapons that are explicitly designed and primarily employed so as to incapacitate personnel or materiel while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment." Furthermore, "unlike conventional lethal weapons that destroy their targets principally through blast, penetration, and fragmentation, NLWs employ means other than gross physical destruction to prevent the target from functioning. NLWs are intended to have relatively reversible effects on personnel and materiel."

#### 14-2. General

- a. The term "Non-Lethal" does not mean zero mortality or nonpermanent damage. Fatal injuries can occur if munitions are employed at a distance that is less than the determined minimum safe engagement range.
- b. The Inter-Service Non-Lethal Individual Weapons Instructors Course is the only course in DOD that is certified to produce instructors who will train individuals in the proper employment of NLWs.
- c. For the Marine Corps, the use of NLW in force-on-force scenarios with the exception of SESAMS/CCMCK is authorized only under approved deviation per AR 385-63/MCO 3570.1C and Chapter 1 of DA PAM 385-63 and Operational Risk Management procedures have been completed in accordance with MCRP 5-12D and MCO 3500.27B.
- d. For the Marine Corps, if force-on-force training with NLW is conducted under an approved deviation, Marines may be in the NLW danger zone but must remain outside the minimum target engagement distance at all times.
- e. For the Army, Soldiers participating in force-on-force training with NLW may be in the NLW SDZ, but must remain outside the minimum engagement distance at all times.
- f. Head shots with NLW are not authorized.

**NOTICE: Per DA PAM 385-63, Non-Lethal Ammunition and Simunitions are considered Live Ammunition. Surface Danger Zones are required for these types of ammunition as well. The use of Non-Lethal Ammunition and Simunitions require an OIC and a RSO. OIC and RSO MUST be listed on the Commander's Safety Certification Memorandum for the Weapons they are firing, and they MUST have a current Range Safety Briefing Agreement on file at Range Control.**

#### 14-3. Surface Danger Zones

- a. Many non-lethal munitions have both a maximum effective range and minimum target engagement distance. Individuals short of the minimum target engagement distance may suffer severe injuries or death. The effects of most non-lethal munitions are greatly decreased at longer ranges.
- b. Hazardous effects from certain NLW munitions can be experienced at or behind the firing line. For example, the rubber rounds described in paragraph 14-4 may bounce back when fired against a hard surface.
- c. Area R is the portion of the SDZ behind the firer where personnel, equipment, and facilities may be endangered by ricochets to the rear of the firing line.

#### 14-4. CRTC Specific Guidelines

- a. NLW and Simunitions training may be conducted anywhere in the FTA, however Range Control is required to create a Surface Danger Zone for the Range or TA prior to the training event.
- b. Units must submit a Training Plan to Range Control that includes the specific ammunition type to be fired **NLT 90 days prior** to Range/TA usage.
- b. Civilian entities are required to review the list of military NLW munitions mentioned in previous paragraphs to request the equivalent or similar Civilian munitions.

**NOTE: Units utilizing colored Simunitions at the CACTF must clean the buildings (inside and outside) to the best of their ability prior to being cleared off the Range.**

- c. An OIC and a RSO are required for NLW and Simunitions usage.
- d. The range OIC must have a copy of the RMTK SDZ Layout Sheet on the range to ensure that unprotected personnel do not enter the SDZ.
- e. Minimum Medical Support requirement is CLS (Military) or First Responder (Civilian).
- f. A copy of the Unit's Risk Management Worksheet is required to be on file at Range Control, and on the range as well.

#### **14-5. Special Effects Small Arms Marking System (Marine Corps)**

- a. The Special Effects Small Arms Marking System (SESAMS) is a Marine Corps training system that fires a marking cartridge (colored dye) to enhance realism for force-on-force training. Improper use of the SESAMS training system may cause serious personal injury and/or damage to equipment.
- b. The mixing of live ammunition and SESAMS rounds is prohibited.
- c. Installation commanders should establish a RSO program that specifically addresses SESAMS training system requirements.
- d. Upon completion of the SESAMS RSO requirements, Installation Commanders will certify Marine Staff Sergeants (and above), or other Service equivalent, as SESAMS RSO.
- e. Before SESAMS firing:
  - 1) Ensure that only Marine Corps procured adapter kits and marking cartridges are used.
  - 2) Force-on-force training with SESAMS 9mm DODICs (AA12) and (AA21) is prohibited when temperatures are below 38 degrees Fahrenheit. Training with SESAMS 5.56mm DODICs (AB05) and (AB06) is prohibited when temperatures are below 18 degrees or above 104 degrees Fahrenheit.
  - 3) Account for and remove all live ammunition from the designated training area prior to commencement of SESAMS training exercises.
  - 4) Instruct all participants that head shots are not authorized.
  - 5) Ensure that all personnel within the 150 m safety distance (zone) wear PPE Level 0 protective equipment and clothing. The use of groin protection and gloves is highly encouraged.
    - (a) The FX 9000 and 9003 Protective Face Masks are authorized for use. The FX 9003 Protective Face Mask is specifically authorized for use with DODICs (AB05) and (AB06).
    - (b) The MCU-2A/P Chemical Biological Mask may be used for face and eye protection only if the hard outer eye shields and the C2 canister are attached prior to use with the SESAMS training system.
    - (c) A balaclava, towel, or neck scarf will be worn so as not to expose any portion of the neck and throat. A commercially produced neck protector is also available from Simunition, the FX 8000 Protective Throat Collar.
  - 6) Ensure that the 150 m safety distance (zone) remains clear of unprotected personnel.
- f. During SESAMS firing:
  - 1) Ensure that qualified medical personnel and appropriate medical equipment are available during all SESAMS training exercises (same as live-fire).
  - 2) Ensure all personnel wear approved hearing protection during all SESAMS training exercises.
  - 3) Ensure that a minimum safe engagement distance of 2 m (6.5 ft) for the 9mm SESAMS training system and 4 m (13 ft) for the 5.56mm system is established and maintained from the muzzle.
- g. After SESAMS firing:
  - 1) Ensure all weapons are returned to their operational state and a function check is performed.
  - 2) Account for and return all unused ammunition to the appropriate location in accordance with current applicable directives.

#### **14-6. Close Combat Mission Capability Kit (Army)**

- a. All personnel engaged in CCMCK force-on-force training will wear PPE in accordance with the procedures, restrictions, and other guidance contained in technical/operator manuals, references, and/or pamphlets (TM 9-6920-3700-10). No personnel will be allowed within 75 m of the outermost boundary of the training area when force-on-force training is being conducted without meeting the minimum PPE safety requirements.
- b. All participants will be instructed that no head shots will be taken.

- c. The minimum engagement distance is 1.5 m (5 ft).
- d. All participants will be inspected by the RSO, NCOIC, or OIC prior to the initiation of training to ensure that PPE is worn and that employed individual weapons (M16/M4/M249/M9/M11) have been properly converted to fire low-velocity marking ammunition.
- e. Single hearing protection is required to be worn within 5 m of weapons using CCMCK marking ammunition during firing.
- f. Upon completion of training with the CCMCK, leaders will inspect and ensure weapon barrels are clear of marking projectiles.

## Chapter 15

### Mines, Firing Devices, Trip Flares, Simulators, and Explosive Charges

#### 15-1. General

- a. Procedures in DA PAM 385-63, FM 3-34, and TC 3-34.150 will be used for all training in the use of Demolitions and Explosives. Field Expedient Methods outlined in applicable Field Manuals are authorized for use. Unit commanders will receive prior approval from the Installation RMA (Army) with concurrence of the Installation safety manager (Army) prior to conducting activities employing field expedient procedures or explosives.
- b. All personnel within the SDZ will wear approved protective helmets and hearing protection for all detonations, including while in the confines of missile-proof shelters. Body armor, helmet, and hearing and eye protection (Army)/PPE Level 1 (Marine Corps) will be worn by personnel within the SDZ but outside the missile-proof shelter.
- c. Only mission-essential personnel (Army)/ participating personnel (Marine Corps) will be allowed in SDZs during firing.
- d. Live and inert munitions/demolitions will not be mixed.
- e. Demolitions effects simulators which contain live explosives, as well as other simulators, are considered live munitions.
- f. For the Army, all personnel will wear approved protective helmets, body armor, eye protection, and single hearing protection. For the Marine Corps, PPE Level 2.

#### 15-2. CRTC Specific Demolitions and Explosives Guidelines

- a. Camp Ripley has five (5) approved Demolitions and Explosives Ranges.
- b. L Range is the Large Charge Demolition Range. The range contains a protective viewing bunker. The southern portion of the range is the Small Charge Area (less than 100 lbs.). The northern portion is the Large Charge Area (100-200 lbs.).

**NOTE: The maximum allowable charge is the equivalent of 200 pounds of TNT per blast, with a minimum of 30 minutes between blasts.**

- c. DEMO-5 is the Light Demolitions Range (LDR). The range contains two protective viewing bunkers, and an antenna mast.

**NOTE: The maximum allowable charge is the equivalent of 125 pounds of TNT per blast, with a minimum of 30 minutes between blasts.**

- d. The three Field Training Area Ranges are:
  - 1) DEMO-2 UM 91801570 (OP-2 Demo Site)
  - 2) DEMO-4 UM 90282592 (Located south of the Seal Cabin)
  - 3) DEMO-6 UM 90702842 (Located in TA 75)

**NOTE: The maximum allowable charge for Demo-2 and Demo-6 Ranges is the equivalent of 100 pounds of TNT per blast, with a minimum of 30 minutes between blasts. The maximum allowable charge for Demo-4 Ranges is the equivalent of 200 pounds of TNT per blast, with a minimum of 30 minutes between blasts.**

**WARNING: Under unfavorable weather conditions, the maximum charge noise contours on DEMO-2 and DEMO-6 extend beyond the installation boundary. To comply with USAPHC Noise Contour Models, demolitions and explosives operations on DEMO-2 and DEMO-6 will be restricted during hazy/foggy conditions or periods of steady westerly winds (5-10 mph) with gusts above 20 mph.**

- e. Both M1A2 and M1A3 Bangalore Torpedoes are authorized on L Range and DEMO-4. One-half Kit of M1A2 and a full M1A3 are authorized on DEMO-2, DEMO-5, and DEMO-6.
- f. A Five-minute to Blast warning will be transmitted to Range Control prior to initiating any firing device.
- g. A One-minute to Blast notice will be transmitted to Range Control prior to detonation.
- h. Range Control must be notified when blasting is complete.
- i. Demolitions and explosives operations will be discontinued during, or upon the approach of, an electrical storm.
- j. Trees larger than 2 inches in diameter will not be cut without the approval, and marking by, of the Training Area Coordinator.
- k. All debris from demolitions and associated activities will be removed, and craters will be filled and compacted.
- l. Range Control will inspect the area prior to clearing the range.
- m. Demo plans are required 90 days prior to training being conducted. Plans must include the following:
  - 1) Each shot with specifically what demolitions will be used in the shot (all explosives must be accounted for on the plan).
  - 2) The calculated Net Explosive Weight (NEW) for each component in the charge. Along with the total NEW for the charge
  - 3) The standoff distance required for cover and uncovered protection. If covered is used for the charge the plan must identify the cover used.
  - 4) Must have a misfire kit.

### **15-3. Simulators**

- a. M80 explosive simulators detonate 3 to 5 seconds after ignition of the fuse cord and are capable of causing serious injury. Fuse cord tips should not be split since this reduces burning time and increases the potential for injury to personnel. Do not use M1 and M2 type fuse igniters to ignite the M80 fuse cord or hold the M80 simulator when ignited.
- b. Procedures for the safe use of other simulators are contained in TM 9-1370-206-10, TM 9-1370-207-10, and TM 9-1370-208-10. No attempt will be made to disarm or disassemble simulators.
- c. See TM 9-1370-207-10 for the M142 atomic explosion simulator firing precautions.
- d. Commercially manufactured fireworks (designated for Civilian use) will not be handled, stored, or used in any way by military personnel on the Installation.

### **15-4. CRTIC IED Simulation Kit**

- a. TADSS personnel are located in BLDG 10-65. Phone number is 320-632-7460.
- b. Camp Ripley has 4 IED Simulation Kits. The IED Simulation kit consists of the following:
  - 1 large Simulator IED (T155FT-V2)
  - 1 Receiver/Transmitter (RT01K4)
  - 1 Mortar Launcher (T81MSD)
  - 1 Pipe Bomb (T50PB)
  - 1 Land Mine (T80PM)
  - 1 Booby Trap (T12TWC)
  - 1 Suicide Bomber Vest (T48SBV)
- c. A 2-hour class is required for the Unit's OIC/RSO before they are allowed to draw the equipment. The class is conducted at Camp Ripley Operations - Training Aids, Devices, Simulators, and Simulations (TADSS), 320.632.7460.
- d. IED Simulation Kit must be requested **NLT 90 days prior**. Request for use of the simulators goes through Supply and Services.
- e. Prior to using the Kit, the Unit must give the location of the IED Simulation Kit usage to Range Control.



**NOTICE: The OIC declares the area is clear before any personnel are permitted within 500 feet of the blast point.**

- f. The OIC ensures no loose rocks or other objects, which could serve as missiles, are above the ground, within 18 inches of the sound charge.
- g. Locate the firing point upwind from the point of detonation.

**CAUTION: Do not remove the cardboard separator, which is stapled just above the smoke charge. Removal of the separator damages the cables and may result in a malfunction of the simulator.**

#### **15-5. Live Fire Exercise Breach Facility (BREACH)**

The Breach Facility is used to train soldiers the technical aspects of breaching. It is also used to train TTPs and explosive techniques not trained on any other type range.

- a. This range has three separate training technique stations:
  - 1) Station 1-Door Breaching-this station has a facade that is 8 feet high with a door opening of 33 inches by 80 inches. Soldiers can conduct mechanical, thermal, ballistic, and explosive door breaching techniques. Units must include Shotgun Breaching in the Demo Plan, if they will be performing this Task at this Station.
  - 2) Station 2-Wall Breaching-this station contains a facade that measures 8 feet high by 20.5 inches wide. Soldiers can conduct mechanical, thermal, ballistic, and explosive wall breaching.
  - 3) Station 3-Window Breaching-this station contains a facade that measures 8 feet high with three window openings measuring 32.75 inches by 38.75 inches.
- b. Supports explosive breaching of hard targets up to 4 lbs.
- c. Civilian agencies that utilize this facility will be responsible for replacing all doors and windows that are destroyed during training.
- d. Charges will not be placed on the metal studs in the Station 2 facade.
- e. All other safety measures listed in this chapter, DA Pamphlet 385-63, FM 3.34.214, and the Breach Facility SOP must be followed.

# Chapter 16

## Laser Range Safety

### 16-1. General

The fundamental concept of Laser Range Safety is to prevent direct and collateral injury or damage resulting from laser use. Personnel using or supervising the use of lasers will be thoroughly familiar with all aspects of laser operations, systems employed, and associated dangers during training.

- a. Safe use of military lasers and laser systems. This chapter provides guidance for the safe use of military lasers and laser systems on military ranges as listed in MIL-HDBK-828B and JP 3-09.
- b. Safe treatment of Lasers: Lasers will be treated as direct-fire weapons.
- c. Laser systems: Laser systems will be directed only at approved targets and from approved operating positions/areas or on designated headings and altitudes.
- d. Laser usage: Unfiltered Class 3B, 4, or DOD-Exempt Lasers will be used at the Impact Areas only. Also, these Lasers will be operated only in Restricted Airspace.
- e. Nominal Ocular Hazard Distance (NOHD). The NOHD is the distance from an operating Laser to the point where the Laser is no longer an eye hazard.
- f. Unprotected personnel. Unprotected personnel must not be exposed to laser radiation within the NOHD of the Laser System.
- g. Protected personnel. Personnel within the LSDZ will wear laser eye protection during laser operations. Eyewear must be appropriate for the wavelength and corresponding optical density required of the laser system in use. Skin protection should be worn when appropriate.
- h. Laser devices can seriously injure the unprotected eyes of individuals within the laser beam. Intra-beam viewing of either the direct beam or the beam reflected from a mirror-like surface exposes the unprotected eye to a potential hazard and must be avoided.

### 16-2. CRTC Specific Laser Guidelines

- a. Follow all instructions contained in the specific Laser or Simulator FMs and/or TMs.
- b. OIC and RSO must be listed in the Commander's Safety Certification Memorandum and have a current Range Safety Briefing.
- c. An approved RMTK Surface Danger Zone Layout Sheet must be utilized for obtaining left and right deflection limits, and vertical angles.
- d. The RSO will conduct a detailed range specific safety briefing prior to opening the range.
- e. A red range flag will be displayed while the range is open.
- f. Continuously monitor Range Control primary frequency 36.100, and perform hourly communication checks.
- g. Ensure adequate backstop is provided for all targets being lased, and target area is free of specular (mirror-like) surfaces. Examples of specular surfaces are vehicle windows, mirrors, plastic sheeting, etc. Glossy foliage, raindrops, and other natural objects are not considered specular surfaces. Report any specular surfaces within your zone of fire to Range Control immediately.

**NOTICE: Never lase personnel, wildlife, or specular surfaces. Never lase targets within 30 meters of a reflective surface.**

### 16-3. Force on Force Exercises

Tactical exercises involving MILES/AGES/AD/TWGSS/PGS do not require SDZ construction, however NOHD restrictions in MIL-HDBK-828B apply. The Garrison Commander may approve tactical exercises involving force-on-force components using laser devices other than those listed.

### 16-4. Laser Accident/Incident Reporting

Report all suspected laser accidents/incidents, regardless of injury, in accordance with AR 385-10, DA Pam 385-24, DA Pam 385-40, TB MED 524, MCO 5104.1C, BUMEDINST 6470.23, and AFI 48-139. Expeditious medical guidance is available through the Tri-Service Laser Injury Hotline at 1-800-473-3549 or 937-938-3764, DSN (312) 798-3764, or esoh.service.center@wpafb.af.mil.

# Chapter 17

## Live Fire Exercises

### 17-1. Training Unit's Responsibilities

Units desiring to conduct any type of Unestablished Live Fire Exercise will comply with the procedures indicated below.

- a. No later than 90 days prior
  - 1) Unit **MUST** have the Ranges and/or Training Areas involved **RESERVED** in RFMSS.
  - 2) Submit an OIC/RSO Roster to Range Control. The OIC must be at least a Field Grade Officer for a BN or larger CALFEX.
  - 3) Submit a written Concept of Operations and include detailed scenario sketches and/or overlays that define the Scheme of Maneuver, integration of Supporting Fires, Coordination Lines, Checkpoints, etc.
    - (a) Limits of fire for each element and/or weapon Surface Danger Zone.
    - (b) Specific controls for firing while moving.
    - (c) Communication and control measures.
    - (d) Deliberate Risk Management Worksheet.
    - (e) Types of weapons, ammunition, smoke, chemicals, and pyrotechnics
    - (f) Safety issues or concerns that effect the LFX.
- b. **NLT 72 hours prior**, for platoon and larger, the LFX OIC will conduct a Range Walk-through with designated CRTK Range Control Representative (typically Range Control OIC/NCOIC). The OIC will obtain copies of the approved RMTK Surface Danger Zone Layout Sheet from Range Control at this time.
- c. Unit Commanders will brief participants on the capabilities of the weapons used by the other components of the exercise.

### 17-2. Range Control's Responsibilities

- a. The Senior Commander has final approval for all CALFEX conducted at Camp Ripley.
- b. Assist the unit OIC in developing SDZs.
- c. Review of detailed OPLAN for safety considerations.
- d. Preparation of targetry systems and ranges.
- e. Upon request, provide copies of past LFX/CALFEX scenarios conducted on Camp Ripley that include safety checklists and Deliberate Risk Management Worksheet DD 2977.
- f. Upon receipt and review of information the Range Control Officer or NCOIC will notify the unit POC within five working days, to schedule an initial discussion of the LFX/CALFEX plan.

### 17-3. Changes in LFX/CALFEX Scenarios

Any changes prior to, or during, the LFX will be requested only by the range OIC, and approved by the Range Control Officer or NCOIC.

# Chapter 18

## Environmental Management

### 18-1. General

a. Environmental protection and conservation are the responsibilities of all personnel using Camp Ripley training facilities. Commanders must ensure that no deliberate destruction of natural or cultural resources occur during training exercises.

b. For information on Environmental Management, the Environmental Office (320- 616-2720) or Range Control (320-616-3137/3135) has Leader/Soldier Handbooks and Field Cards available for Soldiers and Units. Environmental information is also included on the CRTC produced 1:50,000 scale maps.

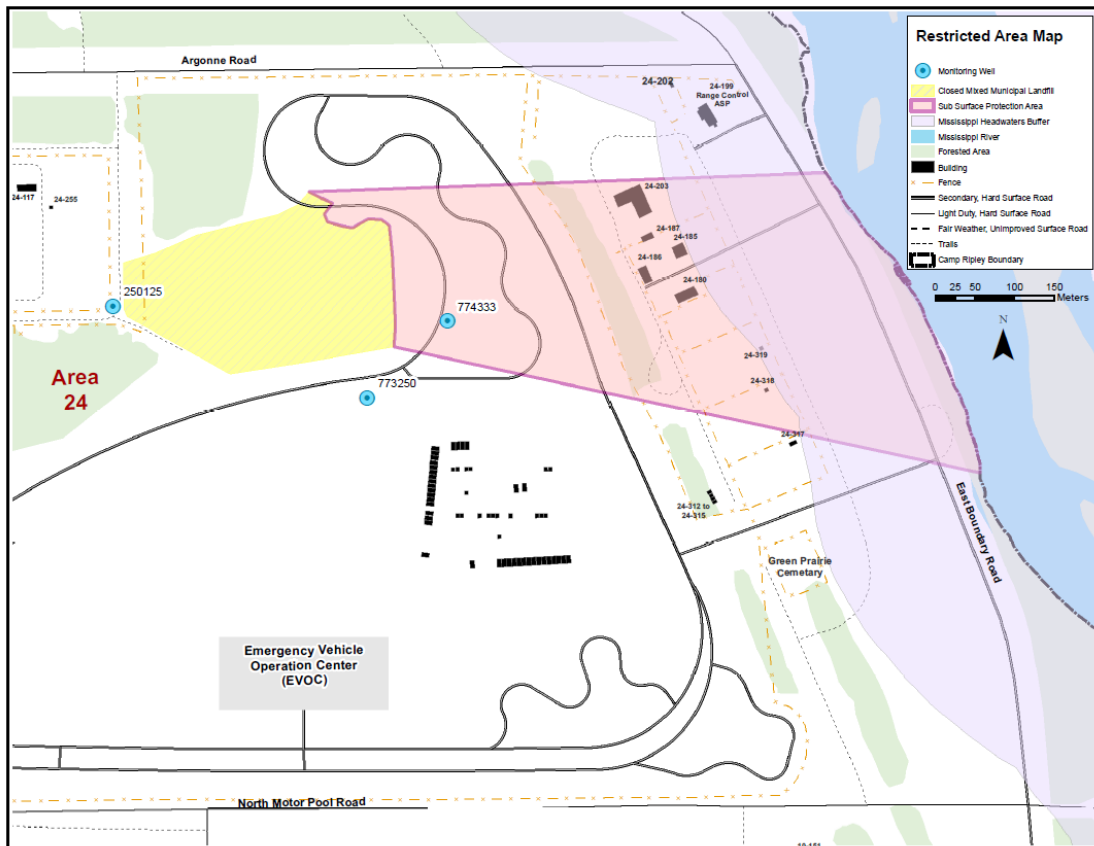
### 18-2. Limited Use Areas

a. A universal marking system (Siebert Stake) marks all Limited Use Areas on Camp Ripley. The “Siebert Stake” has alternating Red and Amber reflective tape that is Night Vision Device compatible.

b. The areas marked with Siebert Stakes include, but are not limited to:

- 1) Culturally protected areas
- 2) Historic Fort Ripley
- 3) Closed Dump sites
- 4) Closed Mixed Municipal Landfill
- 5) Threatened/Endangered species habitat
- 6) Training hazards

c. The Camp Ripley produced 1:25,000 map displays the Limited Use Areas in the FTA. Units should review the map prior to training and plan accordingly. Maps are available at Range Control and in the Environmental Office.



### 18-3. Field Water Points

a. Camp Ripley has four Field Water Points for operating Water Purification Points, Field Showers, Field Laundry, and acquiring Potable Water.

1) WATER SUPPLY TA77 UM 926295 (Crow Wing River): **This Site is designated as Zebra Mussel and Faucet Snail infested waters by the MN DNR (see items e-f below).**

2) WATER SUPPLY TA12 (PICNIC #3) UM 939091 (Mississippi River): **This Site is designated as Zebra Mussel infested waters by the MN DNR (see items e-f below).**

3) WATER SUPPLY TA06 UM 908072 (SE corner of Ferrell Lake): **This Site is not infested water.**

4) WATER SUPPLY WELL TA64 UM 93952839: This is a permanent, electrical pump operated, Potable Water Point. **This site is used to draw potable water from only.** Please run the pump approximately 15-20 minutes to remove residual sediments in the pipe before filling water storage equipment. The well is tested annually for contaminants.

b. All (established and un-established) Water Supply Points must be reserved in RFMSS.

c. Un-Established Water Supply Points used by Units not hauling their potable water off-site, must also follow the same approval procedures. However, environmental standards for locating these water points will limit their approval. The standards include a 100 meter setback from lakes, streams, wetlands, and historic sites. Furthermore, wastewater discharge shall be applied to land surface using the plastic drain field pipe.

d. It is illegal to transport water from infested waters (Mississippi River and Crow Wing River), except by MN DNR permit.

e. Water treated with greater than a 40-micron filter may not be discharged where it can run into another basin, another river, or a drain system that does not go to a treatment facility.

### 18-4. Gray Water procedures

a. Gray Water is defined as wastewater generated by hand washing basins, mobile kitchens, and mobile showers. Gray Water is required to be dumped at designated dump sites.

b. DeParq Woods is the designated Cantonment Site.

c. Y-2 and Y-4 TTBs contain Gray Water storage tanks. The Unit **MUST** have the TTB reserved in order to utilize the tank. Usage is tracked by the Environmental Section. Coordination **MUST** be made with Range Control or the TAC prior to disposal operations.

### 18-5. Bridging Operations

a. W-1 (**Ferrell Lake=un-infested water**) and W-2 (**Mississippi River=infested water**) are the established Bridging ranges.

b. **If the Unit is utilizing both ranges during the same training period, with the same equipment, W-1 MUST be utilized first. NO exceptions. This is to prevent the transfer of invasive species from infested waters to un-infested waters.**

### 18-6. Cleaning Water Purification and Bridging Equipment

Per MN DNR Regulations, any equipment that has been in infested waters **MUST** be treated by one of the following means prior to use in another water source:

1) Power spray equipment to remove dirt, mud, or vegetation. Scraping may be necessary if objects were in the water for extended periods, or

2) Dry 5 days in temperatures over 65 F. Drying is NOT recommended in cool wet weather (< 65 F.).

3) Wash with 104 Degree (F) water for 4 minutes (hotter temperatures result in better and shorter kill times), or

4) Freeze for 2 days, or

5) Treat water with 750mg/l KCL for 1 hour, followed by 25 mg/l formalin for 2 hours to kill Zebra Mussel Veliger.

### 18-7. Fire Control Procedures

The Training Area Coordinator (with MN DNR guidance) is responsible for determining the daily Fire/Pyro Usage Status. The Status sign is located at E Gate, or contact Range Control.

a. Recreational Fires are prohibited in the FTA. An Exception to Policy **MUST** be submitted to, and approved by, Range Control.

b. All Range and Wildland fires **MUST** be reported to Range Control immediately.

c. The following information must be given to Range Control:

1) The location of the fire. **It is very important to report that a fire is located within a Range's Targetry package, or moving towards any infrastructure.**

2) Approximate size

3) Direction of travel

d. **Unit personnel are NOT authorized to fight fires on their own.**

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**FIRE DANGER CODE**

GREEN	Low Moderate	Use normal caution. Fire will start easily. All authorized ammunition, explosives, and pyrotechnics will be allowed on live fire ranges and training areas.
YELLOW	High	Use extra caution. Fire will start very easily. The beginning of the high danger period. Any type of ammunition may be used, with care, on ranges and within impact areas. Use of pyrotechnics, demolitions, and heat or flame-producing devices within training areas should be limited as much as possible to cleared areas or areas previously burned for that purpose.
RED	Very High Extreme	Flash condition. This is the highest class of fire danger. Fires started are practically impossible to extinguish and usually continue until danger rating conditions improve or they burn themselves out. The utmost caution with fire producing agents and devices must be exercised at all times. Only ball ammunition will be used, no illumination round will be fired; no pyrotechnics, no other type of ammunition, or explosive will be used.

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**18-8. Chemical Latrines/ Waste Disposal**

a. Chemical Latrines are required in the FTA, except for the Ranges that have Classrooms with Latrines on them.

b. Units **MUST** schedule Chemical Latrines through the Supply and Services Division of the Camp Ripley Logistics Office at DSN 871-3128, or Commercial (320) 616-3128.

c. Units are required to have a waste disposal plan. Dumpsters are not allowed in the downrange area. Range Control has the authority to issue an exception to policy if circumstances demand such a request.

**18-9. Historical Preservation**

a. Camp Ripley has numerous areas of historical or archaeological significance. The majority of these sites have been located and marked. Many of these areas are off limits to all troops and vehicles. Caution should be maintained when operating near known areas. At no time shall deliberate destruction take place at sites of historical or archaeological significance.

b. Any individual finding an artifact or item of historical or archeological significance is required by law and policy to not touch or disturb. Contact Range Control immediately and receive further guidance.

c. Mechanical digging and tracked vehicle maneuvers are prohibited within 100 meters of a historical or archaeological site.

d. If archaeological artifacts (pottery, stone tools, historic foundations, etc.) are encountered at any time during ground disturbing training or construction, immediately cease all ground disturbing activities within 100 meters of the discovery. Secure the discovery location(s). Contact Range Control for further guidance.

**18-10. Noise Monitoring**

a. Noise is inherent to the operation of Camp Ripley. Of course, with noise, the surrounding communities may be impacted or annoyed. As a result, Camp Ripley Operations Office responds to all noise complaints, and maintains a record of all complaints.

b. Electric generators in support of training activities produce considerable noise. When generators are located within 500 meters of the Installation boundaries, digging in or sand bagging will reduce noise levels.

c. Current noise abatement policy prohibits unnecessary over-flying of populated areas at altitudes lower than 1,500 feet AGL. This policy includes the following:

1) CRTC TACC and Valhalla VIP Quarters

- 2) Green Prairie Fish Lake
- 3) Lake Alexander
- 4) Crow Wing Lake
- 5) All Turkey farms directly north of the R4301 area
- 6) Round Lake and Three Fingers Lake
- 7) Area towns and cities
- 8) The Brainerd Lakes Area (northwest of the City of Brainerd)
- 9) Mississippi River adjacent to Camp Ripley, below 1,500 feet MSL

#### **18-11. Field Fuel Storage/Bladders**

a. Units proposing to install field fuel storage bladders will submit a written request to Range Control **NLT 90 days prior**. The request must include: name, address, and phone number of the Unit; amount and type of fuel to be stored and dispensed; number/volume of fuel bladders to be installed; dates of operation; preferred location on Camp Ripley; and the Unit Point of Contact.

b. The following guidance pertains to the installation and operation of field fuel storage bladders:

- 1) The site will not be located within 100 meters of any lake, stream, wetlands, or historical site.
- 2) The site will not be located within 200 meters of the Mississippi and Crow Wing rivers.
- 3) Preparation of the site, underlying the fuel bladder, will require excavating the topsoil to provide a level site, and to ensure that all debris is cleared that might otherwise puncture the flexible storage container.

4) A continuous berm, surrounding the storage site, will be constructed using on-site soils. The dimensions of the bermed area should not be less than the total capacity of the fuel storage bladder located within the area. The bermed area must be lined with an impervious material to act as a secondary containment, in case of any failure.

5) The area designated for conveying the fuel (i.e., hoses, piping, etc.) must be underlain with an impermeable liner.

6) All spills must be reported to Range Control immediately with grid location, material spilled, quantity spilled, cause of the spill, and time/date of incident. A Spill Report Form (MNCR-200-21-0510) will be completed as soon as possible. Cleanup will be the responsibility of the unit.

7) Any person causing or discovering a spill must take action to stop the spill, contain the spill, and clean up the spill. If the amount of contaminated soil is less than what would fit in a 55-gallon drum, dig it out and transport it to the Solid Waste Transfer Station located southwest of Range Control. If the Transfer Station is closed, bring the material to Range Control. If the amount is greater than what would fit in a 55-gallon drum, earth-moving equipment may be required for removal. Units are responsible for showing Range Control personnel the location of the spill.

8) Range Control or Environmental Office personnel will conduct daily inspections of the site.

#### **18-12. Mobile POL Distribution Points**

POL distribution from mobile units is an activity that has the potential of posing environmental concerns; therefore, the following guidance is provided to prevent any negative impacts:

- a. The proposed location of distribution points should be coordinated with Range Control.
- b. Units should be familiar with the Spill Control procedures.
- c. Use drip pans at all times for the dispensing nozzles, and the dispensing area should be lined with a small piece of impermeable liner such as plastic or an old fuel bladder.
- d. Ensure that the fueling hose is drained into the drip pan after each fueling operation and hang the hoses with the nozzle pointed up.
- e. Each POL distribution point should be equipped with a spill kit in the event of a spill. The kit should include absorbent materials, shovel and plastic storage bags.

#### **18-13. Mechanical Digging**

Camp Ripley has identified maneuver sized areas for mechanical digging with written approval from Range Control. Mechanical digging in areas other than those approved is prohibited unless special provisions are requested and approved by the Environmental Office. Range Control approves permits with concurrence from the Department of Public Works (DPW) and the Environmental Office to ensure facilities (above and below ground) are not affected.

a. Units proposing mechanical digging or earth excavation must submit a Mechanical Dig Permit Form to the Training Area Coordinator **NLT 90 days prior**. Requests must include type of dig and grid location of the excavation, with time and duration of training.

b. Mechanical digging is not permitted in the following areas with no exceptions:

- 1) Signed tree plantations
- 2) 100 meters from historical or archaeological sites
- 3) 100 meters from surface water or wetlands
- 4) Active logging sites
- 5) Within 50 meters of main roads
- 6) Within 200 meters from the Mississippi and Crow Wing Rivers

c. Maps with all above listed areas identified are available at Range Control and the Environmental Office.

d. If archaeological artifacts (pottery, stone tools, historic foundations, etc.) are encountered at any time during ground disturbing training or construction, immediately cease all ground disturbing activities within 100 meters of the discovery. Secure the discovery location(s). Contact range control for further guidance.

#### **18-14. Tick-Borne Diseases**

a. Camp Ripley employees and troops in training need to remain informed on the potential for tick-borne illnesses and prevention of the same. Similar to other areas in the Midwest, Camp Ripley is an endemic area for Lyme Disease and Human Granulocytic Ehrlichiosis (HGE). While all ticks are a nuisance, it is only the deer tick which is responsible for transmitting these diseases.

b. The following methods are encouraged to prevent bites from all ticks:

- 1) Wear uniforms with pants bloused and sleeves down.
- 2) Apply repellent with DEET - (Less than 25% concentrate) to exposed skin.
- 3) Treat clothing with repellent containing Permethrin.
- 4) Use the Buddy System to check for ticks frequently.

c. Dog Ticks.

Individuals should remove common dog ticks by grasping the tick as close to the skin as possible and gently pulling it straight out then wash the bite area and apply antiseptic.

d. Deer Ticks.

If a deer tick bites a person, use the following procedure to ensure that the tick is removed correctly in order for proper identification of disease carrying ticks and prompt treatment of personnel is carried out:

1) Persons with an embedded deer tick should have a Unit Medic (68W) remove the tick, or report to the Medical Unit Training Facility (MUTF) for removal and to have the patient information recorded. Units/Soldiers must use a Tick Kit and complete a Tick Reporting Form before submission to the MUTF. A drop box outside the main doors of the MUTF is available for after hour submissions. Tick Kits are available from Range Control and the MUTF. The MUTF coordinator can be contacted at 320-616-3152.

2) The patient will be informed if the tick is positive for Lyme Disease or HGE, and will be given information and antibiotic treatment accordingly.

**18-15. Vegetation.** Units are encouraged to select locations that have sufficient natural concealment.

This will minimize the need to cut vegetation for camouflage. However, it is permissible to utilize natural vegetation as deemed necessary for concealing vehicles, gun emplacements, and fortifications. The following restrictions apply:

a. Use native hardwood species (oak, maple, aspen, ironwood, hazel brush, etc.) that are less than two inches in diameter.

b. Do not cut evergreens (pine, spruce, tamarack, red cedar, etc.) unless special permission is granted by Range Control.

c. Larger timbers may be needed for fortification. It is permissible to utilize any down trees throughout the FTA.

**NOTICE: The cutting or delimiting of trees is prohibited during the active season of the Northern Long-Eared Bat (01 June – 31 July).**



### **18-16. Training Area Clearance**

a. The TAC and/or Range Control personnel will inspect all training area and bivouac sites before the using unit may clear Camp Ripley. Ensure the following is done prior to inspection:

- 1) A thorough police call of the entire Training Area.
- 2) Remove all garbage, trash, and other debris, and dispose of it at the Camp Ripley Transfer Station.
- 3) Completely fill in all fighting positions, and restore the area to its original appearance.

### **NOTE: DO NOT BURY LOGS OR TRASH IN FIGHTING POSITIONS.**

4) Scatter trees used for concealment or road barriers.

5) Remove all forms of wire from the Training Area.

b. Prior to departing Training Area(s):

1) During Annual Training periods, the Unit Liaison Officer will coordinate with the Training Area Coordinator (TAC) and/or Range Control to clear and close the Training Area.

2) During IDT Weekend training, contact Range Control, Bldg. 24-199, 320-616-3137, or on SINCGARS radio frequency 36.100 primary, 40.400 alternate.

c. Units must have a POC and a cleaning detail on site for Training Area clearance. Range Control will not clear Training Areas in the dark or without someone present on site.

### **18-17. Fuel Wood Cutting Permits**

### **NOTICE: The cutting or delimiting of trees is prohibited during the active season of the Northern Long-Eared Bat (01 June - 31 July).**

a. Authorized personnel:

Minnesota active and retired military members, State and Federal Department of Military Affairs employees. The wood is for **PERSONAL USE ONLY!**

b. Permits:

- 1) 5 Cords-\$25.00
- 2) 10 Cords-\$50.00

c. Guidelines:

1) An application for a Woodcut Permit must be acquired from, and submitted to, the Camp Ripley Training Area Coordinator, located at Range Control. After the TAC approves the application, the Applicant brings the application to the DNR Forestry Office in Little Falls. Applicants will pay the appropriate Fee, then receive the Woodcut Permit from them.

2) Permits are valid from the date of issue through 31 March of the following year. Permit Holders are required to get a Vehicle Pass from Range Control prior to entering the FTA. Cutting will be allowed during **daylight hours only**. **Woodcutting will not be allowed when Range Control is closed, due to safety concerns.**

3) Each permit holder is authorized any number of helpers. The permit holder must accompany the helper(s) at all times.

4) Permit holders are only authorized to remove down, or marked trees. If the permit holder is not sure of the status of the wood they should contact the Training Area Coordinator for clarification, as well as areas where they will be allowed to cut.

d. Violations:

Failure to comply with this regulation may result in revocation of future woodcut privileges on Camp Ripley.

### **18-18. Camp Ripley Fishing Policy**

The policies and procedures set forth herein are applicable to all persons authorized to fish on Camp Ripley. Minnesota fishing regulations apply to all lakes and rivers that are within or border Camp Ripley.

a. Authorized personnel:

1) Current military members in possession of a valid Military Identification Card or retired military members in possession of appropriate identification and their guests.

2) Civilian employees of the Department of Military Affairs (DMA) and their guests.

3) Residents on military leave. A resident that is in the armed forces of the United States, stationed outside of the state, and in the state on leave, may hunt and fish without a license if the resident possesses official military leave papers during the regulated seasons. The resident must obtain the seals, tags, and coupons required of a licensee, which must be furnished without charge.

4) Non-resident military personnel. A nonresident who is in the military and in training at Camp Ripley may obtain a resident license to take fish.

5) Non-residents stationed in the state. The DNR Commissioner may issue a resident license to take fish or game to a person in the armed forces of the United States that is stationed in the state.

b. Authorized Fishing Areas:

1) Due to firing and training activities, authorized fishing areas may be temporarily closed by permanent or temporary barriers. At no time is a person allowed to go around or tamper with any road barriers.

2) Authorized fishing areas are: Mississippi River Rest Area 3 (Zebra Mussel and Faucet snail infested waters); Crow Wing River at Sylvan Dam (Rest Area 5) (Zebra Mussel and Faucet snail infested waters); Ferrell Lake; Round Lake (Rest Area 6); Lake Alott (Rest Area 4); Fosdick Lake; and Lake 1277 (Ragoon Lake). Fishing in other areas of Camp Ripley is at the discretion of Range Control.

3) Travel to and from the authorized fishing areas in the FTA is limited to two routes, East Boundary Road, and the Argonne /Luzon Road route to Round Lake.

4) All fishermen must check in at Range Control prior to entering the FTA. Range Control will issue a vehicle pass and, if necessary, will provide specific directions to authorized fishing areas. In the interest of safety and security, persons must designate which authorized fishing area they intend to fish. During periods when Range Control is not operational, fishing will only be authorized in the Cantonment Area unless otherwise coordinated with Range Control and Security.

e. Authorized Fishing Hours:

Due to military training and the requirement for Blackout Drive, fishermen may not enter the FTA prior to Sunrise, and must return to Range Control prior to Sunset.

f. Special Regulations:

1) Ferrel Lake: Blue Gill Sunfish limit is 5 (Release fish <6 inches.) Crappie limit is 5 (Release all <12 inches). Walleye limit is 3 (release all 14-20 inches, only ONE can be over 20 inches)

2) Ragoon Lake: Walleye limit is 3. Bluegill Sunfish limit is 5 (release fish <6 inches) Crappie limit is 5 (release fish <12 inches) Large mouth Bass (Release fish 14-20 inches, only ONE can be over 20 inches).

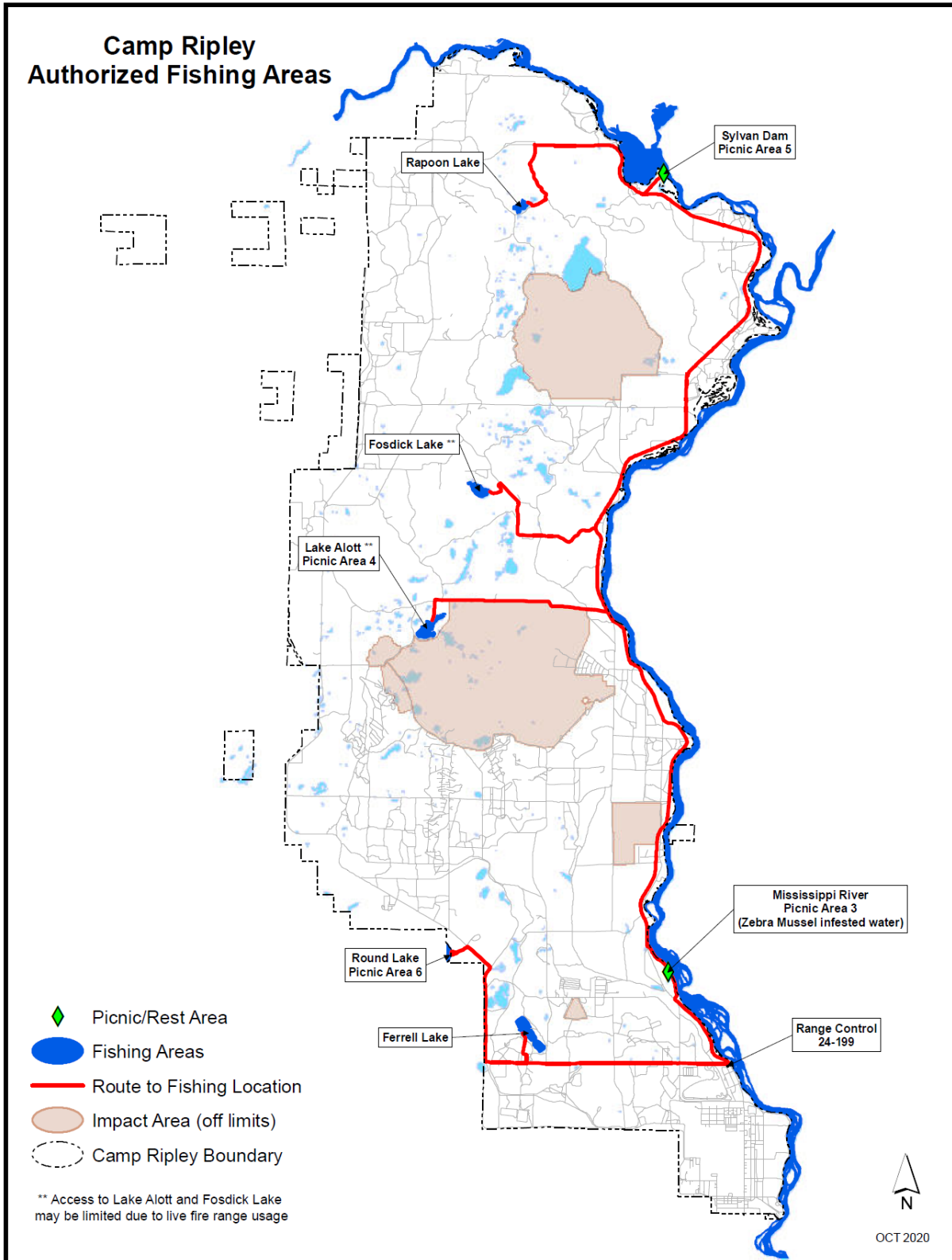
3) Ice fishing is permitted on authorized fishing areas. While icehouses are permissible, they must be removed each day. **No vehicles are authorized to be on the ice of any lake within the Field Training Area.**

g. Violations:

Failure to comply with this regulation may result in revocation of future fishing privileges on Camp Ripley.

**LAKE ROUTE MAP IS ON THE NEXT PAGE**

Authorized Fishing Lakes Route Map



### **18-19. Camp Ripley Hunting Policy**

Since Camp Ripley is a Statutory Game Refuge, permits are required prior to hunting on Camp Ripley. The DNR commissioner may allow hunting of a protected wild animal species within any portion of a State Game Refuge. Hunting may be allowed under this paragraph only if the Commissioner finds that the population of a species exceeds the Refuge's carrying capacity; the species is causing substantial damage to agriculture; the species population threatens forest crops in the vicinity, other protected wild animals, or to the species itself; or a harvestable surplus of the species exists.

**NOTE: No firewood is to be brought onto Camp Ripley. This is to prevent the spread of tree diseases and nonnative forest pests such as emerald ash borer, gypsy moth, and oak wilt.**

### **18-20. Wildlife Management**

Camp Ripley is home to a wide variety of wildlife. In addition to being a Military Reservation, Camp Ripley is also a State Game Refuge. As such, no hunting or trapping is authorized on Camp Ripley, except during the MN DNR and MNARNG designated special hunts. Avoid confrontation at all times with wildlife and report any nuisance animals to Range Control. Good sanitation practices in Unit Bivouac areas will reduce intrusion by wild animals. In the event a wild animal bites any individual, provide first aid and immediately notify Range Control.

#### **a. Protection and Observation of Rare Wildlife**

1) Camp Ripley supports several rare wildlife species that are protected under Federal or State Laws. When these or other species are observed on the ground, care should be taken to avoid them with vehicles or damaging activity.

2) The most likely species to be observed on roads and trails or in fields are the Blanding's Turtle, Snapping Turtle, and Eastern Hognose Snake. The most likely time to encounter turtles is in June, when they are crossing roads between water and nesting sites or when they are digging their nests along the edges of, and in the middle of, roads and trails. Turtle nesting frequently occurs from late afternoon until just after dark. The Blanding's Turtle measures up to 10 inches across, it can be identified by its high domed shell, which looks like a hardhat, and a bright yellow chin and throat. Blanding's Turtle traditional nesting areas are in the Northeast, Northwest and Southwest corners of Camp Ripley. Shells of live Blanding turtles and/or nest sites protected with wire cages may be marked with reflective tape (two 1" x 1" strips) that is visible with night vision devices. The nonpoisonous Eastern Hognose Snake may be encountered in dry, sandy openings where they sun themselves to keep warm.

3) Other protected wildlife species that may be observed include the Gray Wolf and birds such as the Bald Eagle, Osprey, Red-Shouldered Hawk, Upland Sandpiper, American Bittern, Yellow Rail and Trumpeter Swan. Camp Ripley is also home to the Prairie Vole, a small mammal most likely to be observed in fields.

4) When rare or unusual wildlife are observed, whether live or dead, they should be reported to the Environmental Office. The reporting information will consist of: type of wildlife or best description, date and time observed, observer's name, observer's e-mail address, grid location, and any comments about behavior or possible cause of death.

5) All wild animals, especially skunks and raccoons, are potential carriers of the rabies virus. Individuals should not handle or feed any wild animals. If an animal bites or scratches you, seek medical assistance immediately. Report all sick or dead animals to Range Control.

#### **b. Eagle Management**

1) Bald and Golden Eagles are federally protected under the Bald and Golden Eagle Protection Act. The CRTC goal is to protect current nesting Bald Eagle sites, and to promote new nesting sites through proper management. Many human activities can disturb Bald Eagles during the nesting season.

2) To ensure that Bald Eagles nesting on Camp Ripley are not disturbed, a Buffer Zone is hereby established for active nest sites. Human disturbances, including vehicle maneuvers, are restricted from entering the Buffer Zone from 15 FEB through 15 JUL. The Buffer Zone is a 200 meter radius for all ground activities.

#### **c. Black Bear Management**

1) Camp Ripley is home to a stable population of black bear. In an effort to monitor this population, the Environmental Office (320-616-2718) will document incidents of troop encounters with nuisance black bear. Report all encounters with nuisance bears to Range Control.

2) To minimize nuisance bear activity, the following procedures will be followed:

- (a) Do not feed, tease, or harass a bear.
  - (b) Field mess hall operations should immediately haul garbage to the Cantonment Area for disposal after every meal.
  - (c) If a bear comes into your area, stay clear of the animal, and move in the opposite direction.
  - (d) No dumpsters are allowed downrange without prior authorization from Range Control.
- 3) Many bears on Camp Ripley are collared and/or have ear tags. When reporting a nuisance black bear include whether the bear has a radio collar or the colors of ear tags.
- d. Northern Long-Eared Bat Management.
- 1) The Northern Long-Eared Bat is a federally protected species and as such, needs special consideration when units are training downrange.
- (a) During the pup rearing season of 01JUN-31JUL, there will be no cutting of trees, alive or dead, larger than 3" diameter.
  - (b) The use of fog oil is restricted within 50 meters of any wood line.
  - (c) White Phosphorous is restricted to impact within 200 meters away from any wood line.

### **18-21. Solid Waste Disposal**

All solid waste generated in the Training Area **must** be brought back to either the Camp Ripley Transfer Station or to the Units transient barracks for disposal. There will be **no** solid waste containers (dumpsters) brought downrange. Units are **not** to contract directly with waste management companies to bring dumpsters to Camp Ripley.

### **18-22. Aqueous Film-Forming Foam (AFFF)**

- a. AFFF is a fire suppressant used to extinguish flammable liquid fires.
- b. Per- and polyflouroalkyl substances (PFAS) are contaminants that are released from the use of AFFF.
- c. Per the National Defense Authorization Act (NDAA), the uncontrolled release of AFFF at military installations is prohibited except in emergency situations
- d. If AFFF is used in an emergency situation Camp Ripley Range Control must be notified immediately at 320-616-3137/3134.
- e. These reporting requirements apply to both military and civilian assets.