

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. FIELD ARTILLERY CENTER AND FORT SILL
FORT SILL, OKLAHOMA 75303-5100

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No. 385-1

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Safety
POST RANGE REGULATION

Further supplementation by subordinate commanders is prohibited, unless specifically approved by Headquarters, USAFACFS

CHAPTER 1. GENERAL		
SECTION I. INTRODUCTION		
	Paragraph	Page
Purpose	1-1	6
Applicability	1-2	6
Exceptions	1-3	6
Supplementation	1-4	7
Suggested Improvements	1-5	7
References	1-6	7
SECTION II. RESPONSIBILITIES		
USAFACFS Commander	1-7	7
Brigade/Battalion Commander/Director/Dept Chief	1-8	7
Unit Commanders	1-9	8
Installation Range Officer	1-10	9
SECTION III. PREPARATORY REQUIREMENTS		
Coordination with Range Control	1-11	9
Preparatory Checklist	1-12	9
SECTION IV. OCCUPATION OF RANGES AND TRAINING AREAS		
Training Area Entry Points	1-13	10
Unit Police Responsibility	1-14	10
CHAPTER 2. COMMUNICATION REQUIREMENTS		
Communications	2-1	10
Dry Check-In	2-2	11
Wet Check-In	2-3	12
Check-Out Code	2-4	12
CHAPTER 3. TRAINING SAFETY		
SECTION I. SAFETY		
Risk Management/Assessment	3-1	13
Range Ticketing System	3-2	13

*This regulation supersedes USAFACFS Reg 385-1, 14 March 1996.

	Paragraph	Page
Incident/Accident Reporting	3-3	13
Unexploded Ordnance Reporting	3-4	14
Off Limits Training Areas	3-5	14
Hearing Conservation	3-6	15
SECTION II. MOVEMENT		
Military Vehicle Movement Restrictions	3-7	15
POV (Personally Owned Vehicle) Restrictions	3-8	16
Roadguards and Barriers	3-9	17
Range Gates	3-10	17
Blackout Drive / NVG Operations	3-11	18
Convoys	3-12	19
Movement of Tracked Vehicles	3-13	20
SECTION III. PYROTECHNICS, SIMULATORS, CS, AND SMOKE		
Pyrotechnics/Simulator Care and Handling	3-14	20
Riot Control Agents / Smoke	3-15	21
SECTION IV. AMMUNITION		
Care and Handling	3-16	22
Movement Requirements and Restrictions	3-17	22
Malfunctions, Disposal and Usage Restrictions	3-18	24
SECTION V. TARGET EMPLACEMENT IN IMPACT AREAS		
Coordination of Target Emplacement	3-19	26
Procedures	3-20	27
CHAPTER 4. MEDEVAC PROCEDURES AND REQUESTS		
Emergency Medical Service	4-1	27
MEDEVAC Procedures	4-2	27
CHAPTER 5. ARTILLERY LIVE FIRE PROCEDURES		
SECTION I. ALL ARTILLERY UNITS		
Responsibilities	5-1	28
General Procedures / Information	5-2	33
SECTION II. CANNON UNITS WITHOUT AUTOMATED FIRE CONTROL SYSTEMS		
Responsibilities	5-3	38
Requirements / Procedures	5-4	39
SECTION III. PALADIN CANNON UNITS		
Responsibilities	5-5	41
Requirements / Procedures	5-6	43
SECTION IV. MLRS UNITS		
Responsibilities	5-7	44
Requirements / Procedures for Live Fire	5-8	46
CHAPTER 6. NONARTILLERY LIVE FIRE PROCEDURES		
General Situations	6-1	47
Mortars	6-2	48

	Paragraph	Page
Mines and Explosive Charges	6-3	48
Direct Fire with Tank Main Gun	6-4	50
Direct Fire with 90mm and 106mm Recoilless Rifle	6-5	50
Fire and Maneuver Exercises	6-6	50
CHAPTER 7. LASER OPERATIONS		
Purpose	7-1	51
Scope	7-2	51
Responsibilities	7-3	51
Laser Certification Procedures	7-4	52
Range Usage Guidelines	7-5	53
Class 3 and 4 Laser Points	7-6	53
Specific Laser Systems and Requirements	7-7	54
Laser Permission Briefing	7-8	55
CHAPTER 8. AIR OPERATIONS		
SECTION I. GENERAL		
Purpose	8-1	56
Scope	8-2	56
Objective	8-3	56
Administrative	8-4	56
Emergency Procedures	8-5	56
Airstrips	8-6	57
SECTION II. ARMY AIR OPERATIONS		
Air Traffic Over Ranges	8-7	58
SECTION III. FIXED WING AND NON-ARMY AIR OPERATIONS		
Fixed Wing Operations	8-8	61
Range Scheduling	8-9	61
No Ordnance Areas	8-10	62
Noise Sensitive Areas	8-11	63
Approved Ordnance	8-12	63
Target Area Information	8-13	63
Impact Area Information	8-14	64
Target Marking	8-15	64
Location and Identification of Friendly Forces	8-16	65
Airspace Coordination Area	8-17	65
ALO / ETAC Responsibilities and Duties	8-18	66
Weapons Delivery Restrictions	8-19	68
Geographic Reference Points	8-20	69
Local Frequencies	8-21	69

	Paragraph	Page
Range Airspace	8-22	70
Contingencies within Range Airspace	8-23	70
Range Entry	8-24	72
Aircraft Control	8-25	75
CHAPTER 9. PLANNING, OPERATING, AND SCHEDULING		
SECTION I. PLANNING AND OPERATIONAL CONSIDERATIONS		
Regulatory Consideration	9-1	75
Range Use and Authorization	9-2	78
Unit Assignment Priorities	9-3	79
Justification for Sole Use of Roads and Trails	9-4	79
Permanent Training Area Assignments	9-5	79
Local Training Areas	9-6	80
Available Facilities	9-7	80
SECTION II. RANGE REQUEST PROCEDURES		
Scheduling Authority	9-8	80
Range Request Procedures	9-9	80
Processing Range Requests	9-10	81
NBC Decontamination Training	9-11	82
Demolition Training	9-12	82
Training Involving Digging or Other Earth Moving	9-13	82
Overlay for Complex Exercises	9-14	82
Reserve Component Guidelines	9-15	82
SECTION III. CANCELLATIONS		
Cancellation Policy	9-16	82
CHAPTER 10. FIXED TRAINING FACILITIES		
Range Sponsorship Program	10-1	82
Responsibilities of the Sponsoring Units	10-2	83
Fixed Ranges Inspection	10-3	83
Range Operation Requirements	10-4	83
Facilities and Courses	10-5	84
CHAPTER 11. DECLINATION LOCATIONS		
Declination of Aiming Circle	11-1	97
Declination Locations	11-2	97
CHAPTER 12. ENVIRONMENTAL PROTECTION		
General	12-1	104
Policy	12-2	104
Purpose	12-3	104
Restrictions	12-4	104
Release of Hazardous Materials	12-5	105
Fire Prevention	12-6	105
Fire Fighting and Fire Reporting	12-7	106
Stray Livestock or Wildlife	12-8	107

	Paragraph	Page
APPENDIX A. REFERENCES		
Army Regulations	A-1	108
Field Manuals	A-2	108
Special Texts	A-3	108
Training Circulars / Training Manuals	A-4	108
Military Handbooks	A-5	109
Local Regulations	A-6	109
Forms	A-7	109
GLOSSARY		
Acronyms		110
Definitions		111

**CHAPTER 1
GENERAL**

1-1. PURPOSE. This regulation prescribes policies and procedures for scheduling, maintenance, and safe operations on Fort Sill ranges and training areas.

1-2. APPLICABILITY. This regulation applies to U.S Army, Air Force, Navy, Marine personnel, and civilians who are authorized to use Fort Sill Military Reservation outside the cantonment area, to include the airspace up to an altitude of 40,000 feet.

a. Nonmilitary Personnel.

(1) Civilians, family members, and other nonmilitary personnel not on official military business are not allowed on active firing positions, ranges, or training areas.

(2) Exceptions to this policy include--

(a) Organization days.

(b) Marksmanship competitions.

b. Recreation. USAFACFS Regulation 200-1, and chapter 13 of this regulation govern recreational use of range training areas. The proponent for USAFACFS Regulation 200-1 is the Directorate of Public Safety (DPS) Environmental Quality Branch, Building 1458, 442-3543.

1-3. EXCEPTIONS.

a. Submit requests for exception to policy to allow civilians to fire military weapons for approval, in the form of a decision paper, to the first General Officer in the Chain of Command, then to the Chief of Range Control, no later than 30 days before the event date. The request will include the following items, in addition to any others deemed necessary by the command to ensure firing safety, discussed in detail, before any consideration will be given:

(1) Weapon Operating Instruction (Operation, Misfire Procedures, General Safety).

(2) Verbatim Safety Briefing to be used on the range.

(3) Safety qualified coach per each firer.

(4) Transportation to and from the range.

(5) Water provided and protection from heat and cold.

(6) Hearing and ballistic protection for participants.

(7) Liability waiver signed by each participant.

(8) Preliminary Risk Assessment (a completed Risk Assessment will be on hand at the range for all conditions which apply on date of event and signed at the appropriate level).

b. Submit all other requests for exceptions to the requirements of this regulation in writing to Chief, Range Control, NLT 9 weeks prior to the training date for ATC, Fire Support and Combined Arms Operations, and Gunnery Departments or 8 weeks for FORSCOM and Reserve Component units.

1-4. SUPPLEMENTATION. Supplementation of this regulation is prohibited unless specifically approved by Headquarters, USAFACFS. To meet requirements of special training situations, major subordinate commanders are authorized to publish safety directives, which conform to AR 385-62, AR 385-63, and the spirit of this regulation. **In no case will subordinate command safety publications be less restrictive or eliminate any of the safety checks required herein.**

1-5. SUGGESTED IMPROVEMENTS. Submit changes or improvements to Commander, USAFACFS, ATTN: ATZR-TR, using DA Form 2028 (Recommended Changes to Publications), or via the Fort Sill Intranet at <http://range.sill.army.mil>.

1-6. REFERENCES. Appendix A of this regulation contains a listing of required and related publications and forms.

SECTION II RESPONSIBILITIES

1-7. USAFACFS COMMANDER WILL--

a. Establish an installation safety program and operational range control organization.

b. Appoint a qualified installation range officer to implement, monitor, and enforce the installation range safety operations program.

c. Serve as approving authority for waivers required by range users to conduct training.

1-8. BRIGADE/BATTALION COMMANDERS/DIRECTORS/DEPARTMENT CHIEFS WILL--

a. Establish, document, and maintain a safety training and certification program to train and qualify personnel in safety procedures for their specific areas of responsibility.

b. Certify personnel to perform the duties of OIC and range safety officer (RSO) as outlined in this regulation. Ensure range safety certification rosters are on hand at Range Control, signed by the Bde/Bn Commander or equivalent, and updated at least annually, but preferably when changes occur. DPTM may decertify an OIC if he/she ignores the USAFACFS Reg. 385-1. If an OIC is decertified the next commander in their chain of command above the original certifying Commander (or equivalent) must verify the recertification.

c. Ensure all personnel within the command are briefed on installation range procedures and safety requirements.

d. Ensure subordinate leaders complete risk assessments and are signed at the appropriate level, IAW TRADOC Regulation 385-2.

e. Prohibit use of alcohol and controlled substances in the training complex and prohibit any individual under the influence of alcohol or controlled substance entrance into the training complex.

f. Report and investigate incidents or accidents involving weapons or ammunition to Range Control.

g. Initiate an education program to inform personnel not to remove ammunition and pyrotechnics from the range training area. Emphasize the dangers associated with taking these items off the range.

1-9. UNIT COMMANDERS WILL--

a. Ensure compliance with this regulation, applicable TMs and FMs, installation range guidance, environmental regulations, and applicable SOPs for safe training and firing.

b. Designate an OIC and RSO for each firing exercise.

c. Ensure personnel performing duties of OIC and RSO are certified IAW established safety certification program and have read the Range Safety Briefing at Range Control (certification and Range Safety Briefing are valid for 1 year).

d. Develop SOP for laser operations to include provisions for immediate medical attention for personnel who incur eye or other overexposure to laser energy.

e. Complete risk assessments and ensure it's signed at the appropriate level, IAW TRADOC Regulation 385-2.

f. Prohibit use of alcohol and controlled substances in the training complex and prohibit any individual under the influence of alcohol or controlled substance entrance into the training complex.

g. Report and investigate incidents or accidents involving weapons or ammunition to Range Control.

1-10. INSTALLATION RANGE OFFICER WILL--

a. Serve as the central point of control and coordination for all activities conducted within the installation training complex to ensure safety and unified operations.

b. Coordinate range safety issues with appropriate installation staff.

c. Approve, control, and monitor personnel access into the installation training complex.

d. Maintain current maps and overlays of training complex impact area boundaries, surface danger zone diagrams, and ground hazards.

e. Maintain records of current and historical surface danger areas and airspace zone diagrams, weapon system safety data, firing limitations, and survey data for firing positions.

f. Take or recommend actions necessary to enforce provisions of this regulation.

g. Perform other administrative and investigative duties and activities related to the scheduling and safe operation of ranges, training areas, and airspace.

**SECTION III
PREPARATORY REQUIREMENTS**

1-11. COORDINATION WITH RANGE CONTROL. Coordination with Range Control should be made IAW this regulation prior to training. Contact Information is--

a. Building 2584 Currie Road.

b. Chief: 442-5613 / Operations: 442-2994 /Scheduling: 442-6191 /Range Support: 442-2904.

1-12. PREPARATORY CHECKLIST. Following is a general checklist of items for coordinating, scheduling, and planning training activities on the Fort Sill Military Reservation. Detailed range request procedures are located in chapter 9 of this regulation.

a. Schedule range training facilities through Range Control via the Range Control homepage located on the intranet at <http://range.sill.army.mil>. Schedule all range use, even if you sponsor and maintain the range.

- b. Ensure range safety certification rosters are on hand at Range Control, signed by the brigade commander, battalion commander, director, or equivalent. Update rosters at least annually, but preferably when changes occur. DPTM may decertify an OIC if he/she violates the provisions of this regulation. If an OIC is decertified, the next higher Commander in the chain above the original certifying officer must verify the recertification.
- c. Ensure individuals on the Safety Certification Roster have signed the Range Safety Briefing (both rosters are valid for 1 year).
- d. Ensure all range positions have been filled with competent personnel.
- e. Perform risk assessment with a Risk Assessment Code (RAC) and proper signature from approving authority prior to operations taking place.
- f. Ensure unit has the required references (e.g., SOPs, FMs, TMs).
- g. Ensure the highest controlling element has adequate radios to establish and maintain continuous communications with Range Control.

**SECTION IV
OCCUPATION OF RANGES AND TRAINING AREAS**

1-13. TRAINING AREA ENTRY POINTS. All tracked vehicles must enter and exit training areas and facilities at authorized points. Authorized points are identified on Fort Sill 1:50,000 maps as roads entering or leaving training areas or facilities.

1-14. UNIT POLICE RESPONSIBILITIES. Upon occupation of a training area or facility, the using unit has 1 hour to inspect for garbage or discrepancies and report these to Range Control. If occupation is in the hours of darkness, report the garbage or discrepancies no later than 1 hour after sunrise. Failure to notify Range Control within the given time will result in the using unit assuming responsibility for all garbage and/or discrepancies found in the area or facility by Range Inspectors.

**CHAPTER 2
COMMUNICATION REQUIREMENTS**

2-1. COMMUNICATIONS. Communication between units and Range Control is paramount to ensure the safe operation of the Fort Sill Military Reservation.

a. The following are permanently assigned Range Control frequencies (New squelch ON for 12 series radios, SC/PT for SINCGARS):

RADIO FREQUENCIES			
EAST RANGE	WEST RANGE & QUANAH	ALTERNATE	MEDEVAC
38.50	34.50	30.50	32.20

b. Range Control operates a range safety net 24 hours a day to control weapons firing, the use of training facilities, and the conduct of aerial operations.

c. The highest controlling element using the Fort Sill Military Reservation must monitor the range safety net for all of its subordinate units at all times. DPTM will place any unit not monitoring this net in an "ADMINISTRATIVE CHECKFIRE" status until continuous monitoring is verified.

d. When communicating with Range Control over the range safety net, unit call signs will be the actual unit designation (e.g., 2-2 FA).

e. Do not use the range safety net for administrative purposes. Communication checks over the range safety net should be made only when doubt exists concerning communication status. Units will make every effort to keep the radio nets free of unnecessary traffic.

f. Units with no access to TO&E radios may submit a request for radios (Motorola) to communicate with Range Control through the Internet (<http://range.sill.army.mil>, menu item Range Support Services) at least 2 weeks prior to week of training.

2-2. DRY CHECK-IN. This procedure allows the highest controlling element to monitor the range safety net for all subelements and eliminate the requirement to individually check-in subelements. Range Control will issue a four digit Dry Check-In Code upon receipt of the following information (Lines A-G below)--

DRY CHECK-IN PROCEDURE	
LINE	INFORMATION REQUIRED
A	Unit Identification
B	Location of Controlling Element and all TAs to be used for training
C	RTOs Initials
D	OICs Name and Rank
E	Unit Phone Number
F	Total Number of Personnel
G	If releasing Pyrotechnics/Simulators ensure a check-in is accomplished

2-3. WET CHECK-IN. The highest controlling element will use this procedure to check subelements in and out of the ranges. The controlling element will monitor the range safety net, allowing the subelements to focus on training. Subelements are not required to monitor the range safety net. The controlling element will check all subelements in and out of the range. In the event of a check fire or cease-fire freeze from Range Control, the controlling element will notify all subelements and then notify Range Control of their status. Range Control will issue a four digit Wet Check-In Code upon receipt of the following information (Lines A-G below):

WET CHECK-IN PROCEDURE	
LINE	INFORMATION REQUIRED
A	Unit Identification
B	Location of Controlling Element and all TAs to be used for training
C	RTOs Initials
D	OICs Name and Rank (for each firing element in a Wet Status)
E	Unit Phone Number
F	Number of Personnel
G	Number and Type of Weapons

2-4. CHECK-OUT CODE. Units must request a check-out code prior to moving. Range Control will issue a four digit Check-Out Code upon receipt of the following information (Lines A-E below)—

CHECK-OUT PROCEDURE	
LINE	INFORMATION REQUIRED
A	Unit Identification
B	Check-in Code
C	Training Areas Used
D	Number, Type of Rounds Expended (if any) and DODIC
E	Number and Type of Charge Fired (if any) and DODIC

**CHAPTER 3
TRAINING SAFETY**

**SECTION I
SAFETY**

3-1. RISK MANAGEMENT/ASSESSMENT. Risk management is a mandatory, systematic process, which identifies risks of mission and training requirements, weighs risk against training benefits, and eliminates unnecessary risk. Leaders must complete a risk assessment prior to conducting training on a Fort Sill Military Reservation training facility or site. The risk assessment covers all training events scheduled at the training site and signed at the appropriate level. The risk assessment will remain at the training site until training is completed, and unit will update as changes to training environment or situation dictate (e.g., change in weather, live fire, day vs. night ops, etc.). Address specific questions about risk management/assessment to the Installation Safety Office, 442-4215/4466.

3-2. RANGE TICKETING SYSTEM. Range Control personnel may issue the OIC or NCOIC of a unit conducting field training a Range Violation Notice (Fort Sill Form 650) for failure to comply with this regulation. DPTM will notify (in writing) the battalion commander of the affected unit of the circumstances surrounding the violation. Depending on the severity of the violation, DPTM could decertify the OIC/NCOIC. In case of recurring violations, DPTM will notify (in writing) the unit's next higher commander.

3-3. INCIDENT/ACCIDENT REPORTING. Any person observing or involved in an accident/incident will report it immediately to Range Control.

a. Report the following incidents/accidents:

REPORTABLE INCIDENTS/ACCIDENTS
Death or any injury requiring the evacuation of military or civilian personnel.
Property damage exceeding \$100.
Incidents that result in a loss of combat capability or security (e.g., lost weapon, ammunition, or COMSEC equipment).
Any incident likely to result in adverse media coverage.
Any fire, in or out of the impact area or arson.
Vandalism on the range or to range facilities.
Missing aircraft.
Dud munition, round unobserved or out of the target area.
Weapon or ammunition malfunctions.
Any incident/accident involving radioactive material.
Any other incident/accident deemed reportable at the time.

b. Reports should include the following information:

INCIDENT/ACCIDENT REPORT FORMAT	
LINE	INFORMATION REQUIRED
1	Name, Grade, and Unit of Person Calling
2	Type of Incident/Accident, Location, & Time Incident/Accident Occurred
3	Injury Data (# Persons by Name, Grade, Unit, & Extent of Injuries)
4	Any Useful Additional Information or Information Requested by Range Control

3-4. UNEXPLODED ORDNANCE REPORTING.

a. EOD Requests. Make emergency requests for EOD support through Range Control. Make routine requests directly to 761st Ordnance Company (EOD) at 442-8885/8886.

b. Unexploded Ordnance (UXO) hazard procedures. If an item of unexploded ordnance (UXO) is found, observe the following rules:

UNEXPLODED ORDNANCE RULES	
RULE	
1	Do not approach, move, or disturb the UXO.
2	Make all radio transmissions further than 100 meters from the UXO.
3	Do not attempt to remove anything on or near the UXO.
4	Mark UXO with marking kits or engineer tape placed at waist level above ground. Any marking should be visible from at least 50 meters away. Do not mark the UXO any closer than the distance at which it was first discovered.
5	Evacuate all nonessential personnel and equipment from the area.

c. Report UXO hazards to Range Control using the following spot report:

9 LINE UXO SPOT REPORT	
LINE	REQUIRED INFORMATION
1	DTG UXO discovered & Reporting Unit Designation.
2	Grid Location of UXO.
3	Contact Method for Reporting Unit (Radio Frequency, Call Sign, Phone #)
4	Type of Munition & Method of Emplacement (Dropped, Projected, Placed, or Thrown).
5	Any associated NBC Contamination.
6	Any Resources Threatened in the UXO Hazard Area.
7	Impact on Unit Mission.
8	Any / All Protective Measures Taken.
9	Recommended Priority (Immediate, Indirect, Minor, No Threat).

3-5. OFF LIMITS TRAINING AREAS. The following areas of Fort Sill are **OFF LIMITS:**

OFF LIMITS AREAS OF FORT SILL	
Number	Description
1	All weapon system Surface Danger Zones (SDZs).
2	All Impact Areas (unless given permission from Range Control).
3	TAs 52 & 53 (except for FP 166, FP 181 and Phantom Firepower LTA).
4	All Areas marked by DEQ for revegetation or for agricultural use.
5	Running Deer Girl Scout Camp (ND 391/404).
6	Camp Eagle (unless permission is granted from Commandant, NCOA).
7	Crater Creek Demolition Area (ND 373/353).
8	Quanah Special Effects Fields (ND 261/359 to 261/369 to 271/369 to 271/359 to 261/359).
9	Quanah Range Control Tower (Antenna Hill) ND
10	Medicine Bluffs

NOTE: Consult the Cannoneer newspaper for weekly updates to off limit areas for surface danger zones (SDZs).

3-6. HEARING CONSERVATION. Commanders are responsible for implementing the requirements stated in USAFACFS Reg 40-557-1. OICs will enforce hearing conservation practices at all training areas and ranges.

SECTION II MOVEMENT

3-7. MILITARY VEHICLE MOVEMENT RESTRICTIONS.

a. The following paved roads are off limits for use by any vehicles above 5 tons, tracked vehicles, heavy expanded mobility tactical trucks (HEMTT), and 5 ton and 2 1/2 ton trucks loaded with fuel or ammunition:

(1) Tower Two Road (ND 507348 to 507385).

(2) MOW-WAY Road (an exception is from Burrell Road to ND 508347 for tracked vehicles to enter TA 55, III CA LTA).

(3) Apache Gate Road.

b. Vehicles will not stop traffic on HWY 115. Vehicles will cross without interrupting public traffic flow by yielding right-of-way and crossing when possible.

c. Tracked vehicles and all vehicles in convoy must never exceed 35 mph on range roads.

d. Utilize ground guide for all vehicles moving in a confined area or where troops are bivouacked.

e. If low water crossings have water flowing over them, and the bottom of the crossing or the water elevation marker cannot be seen, **DO NOT ATTEMPT TO CROSS**. Low water crossings covered with water may cause vehicles to start floating downstream without warning.

f. Units must close Highway 115 to traffic when firing over Highway 115 with ammunition that is not cleared for overhead fire. Close it only during actual firing and for no longer than 15 minutes at a time. To close the highway, the RSO and OIC will ensure the following:

(1) Guards are equipped with radio or wire communications with the unit FDC.

(2) Guards are posted outside of the safety fan.

(3) The controlling FDC notifies the guards on the highway when actual firing is to commence and has ended.

(4) The guards stop traffic during actual firing.

(5) In the event emergency-type vehicles (e.g., ambulances, fire trucks, police cars) are approaching on the highway, the guards will immediately notify FDC. The FDC will issue check fire and notify the guards to let the emergency vehicles proceed.

(6) Stop school buses for no more than 5 minutes.

g. Engineer Lake is the only dam authorized for tactical vehicle use. All other dams are off limits to tactical vehicles.

h. Ditches and road shoulders are off limits to all vehicles. Make pivot turns, neutral steers, etc., on roadways.

i. Do not park tracked vehicles within 20 feet of the base of trees. Units can park all other vehicles within 10 feet.

3-8. POV RESTRICTIONS. POV parking is allowed on Fort Sill Military Reservation subject to the following:

a. Display a POV range-parking pass on the dashboard of the vehicle when parked on the range, except as described in paragraph 3-8c, below. Obtain passes from Range Control for military purposes, or from the Fish and Wildlife Office for recreational purposes, IAW USAFACFS Reg 200-1.

b. Artillery firing positions are off-limits to all POVs. However, personnel may park POVs along improved roads near firing positions if personnel have a range-parking pass or they may use a parking area if available.

c. Range Parking Passes are not required for improved parking areas (normally at fixed facilities), while the owner is on official military business.

d. Personnel will not drive POVs in blackout areas during the hours of darkness unless they are on official military business. If personnel must enter a blackout area, turn on parking lights only.

3-9. ROADGUARDS AND BARRIERS.

a. Requirements for roadguards are outlined on safety cards issued by Range Control.

b. Place roadguards/barriers temporarily on roads and trails in the range area to prevent access to danger areas.

c. Vehicles will not cross barriers without permission of Range Control.

d. Remove barriers as soon as possible after conclusion of the mission dictating their use.

e. Roadguards have authority to control traffic on public highways (e.g., State Highway 115) only during firing of ammunition not approved for overhead fire (e.g., MLRS firing).

f. Roadguards will not close improved surface roads (gravel or pavement) for more than 5 minutes at a time.

g. Roadguards will wear reflective vests at all times and carry baton flashlights when it is dark or visibility is reduced to 500 feet or less.

h. Range Control and/or DPS will emplace temporary barricades as necessary for safety reasons.

i. POVs will not cross any low water crossing barricade. Unit commanders may make the decision to bypass barricades for military vehicles. Use discretion in making this decision. Running water can exert extreme force on the side of a vehicle, washing even the heavy vehicles downstream.

3-10. RANGE GATES.

a. Individuals using range gates must lock the gates behind them. However, units desiring free access to range gates while conducting field exercises are authorized to

leave gates unlocked if guards are posted on both sides of HWY 115 with instructions to prohibit the entrance of unauthorized vehicles and personnel.

b. Keys to Twin Gates and Falcon Gate are maintained at Range Support. Submit request for keys through <http://range.sill.army.mil> and click on Range Support Services and Keys. Requests will include dates needed, number of keys, which gates, justification, and who is authorized to sign for keys (must be SFC or above).

3-11. BLACKOUT DRIVE/NVG OPERATIONS.

a. The following range areas are Blackout Drive Areas and are closed to other than official military activities and POVs during the hours of darkness Monday thru Sunday:

- (1) All of Quanah range.
- (2) West Range area west of West Lake Road on South Boundary Road.
- (3) West of West Branch Wolf Creek, grid ND 459346 on McKenzie Hill Road.
- (4) West of Lake Elmer Thomas on North Boundary Road.
- (5) Punch Bowl Road between grid ND 538388 and North Boundary Road.

b. Personnel authorized in blackout areas are the following:

- (1) Troops in training.
- (2) Personnel on official military business.
- (3) Licensed hunters and fishermen traveling on the ranges 1 hour before dawn and 1 hour after dark enroute to or from their activities.

c. Vehicle blackout/NVG rules.

(1) Vehicles will not exceed 15 mph on range roads when in blackout drive or while using NVGs. Units may need to reduce this speed based on inclement weather and adverse road conditions.

(2) Passing is not authorized under blackout drive conditions.

(3) NVGs are authorized for single or multiple vehicle operations in the blackout areas of the range training complex. Convoy operations, 5 or more vehicles, are also authorized.

(4) Convoys composed of different types of vehicles should proceed at the speed of the slowest vehicle. As a general rule, the speed limit should not exceed that established for blackout driving without the use of NVGs, which is 15 miles/hour.

(5) Convoy driving with NVGs is permitted only if every driver and assistant operator are NVG-equipped. If insufficient quantities of NVGs prohibit this, units may use a mix of NVG and blackout drive. Group the NVG-equipped vehicles together at the rear of the convoy. Do not disperse and intermix them with other vehicles not equipped with NVGs. If grouped in this manner, be sure the last non-NVG-equipped vehicle has its rear blackout drive lights off or taped.

(6) License personnel using NVGs IAW AR 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing).

(7) NVG licensing is an annual requirement. Conduct refresher training for motor vehicle operators who have not participated in an NVG driving mission in the past 6 months (USAR and ARNG: 12 months) to maintain or regain proficiency.

(8) Instructors must be NVG qualified, and licensed on the vehicles on which training is conducted, and the commander must designate them in writing as certified NVG instructors.

(9) Instructors will document qualification and refresher training on the individual's DA Form 348, Section III, and annotate on the OF 346 and DA Form 348, Section I, the specific type of NVG on which the individual is qualified.

(10) Emergency vehicles responding to an incident or emergency will travel full service drive. Other vehicles must stop and allow emergency traffic to pass before continuing under blackout conditions.

d. Prohibited areas for blackout drive/NVG operations are the following:

(1) Within the cantonment area and on public traffic routes except where posted.

(2) Tactical night blackout moves across State Highway 115 are prohibited. Vehicles crossing State Highway 115 must have service drive lights on low beam.

e. Only Range Control is authorized to make the decision for blackout drive conditions to be lifted. DPTM will broadcast lifting of blackout drive conditions over the range safety net when conditions are not conducive to the use of blackout drive and/or NVGs. Commanders should advise Range Control when conditions are severe enough, in their opinion, to lift blackout drive status.

3-12. CONVOYS.

a. Convoys will not cross or travel on main post roads during the periods of 0645-0730, 1100-1200, and 1600-1715, unless units receive prior clearance from the Traffic Section, DPS (442-4148/2545). This restriction does not apply to Saturday, Sunday, or holidays.

b. Convoys approaching State Highway 115 will stop at the edge of the right-of-way. A responsible driver (SSG or above) will drive each vehicle directly across the highway without interrupting the public traffic flow. **Do not halt** traffic on State Highway 115 to allow military vehicles to cross the highway.

c. Convoys will post roadguards when crossing uncontrolled public traffic route intersections.

d. Convoy speed will not exceed 35 miles per hour.

3-13. MOVEMENT OF TRACKED VEHICLES.

a. During movement, use track commanders (TCs).

b. The driver and TC must be two separate people.

c. The TC will have communication with the driver in vehicles equipped with an intercommunication system.

d. If communication between the driver and the TC is lost during movement, the driver will immediately pull off to the side of the road. The unit communications team will repair the communications or lead the vehicle to the next position.

e. Do not exceed 35 miles per hour when driving tracked vehicles.

SECTION III PYRO/CS/SMOKE

3-14. PYROTECHNIC/SIMULATOR CARE AND HANDLING. Care and handling of pyrotechnics, particularly simulators, is of major concern. Misuse, mishandling, or abandonment can easily result in serious injury or death.

a. OIC must be certified to handle and use pyrotechnics, must be on the safety certification roster on file at Range Control, must receive a dry check-in code, and is responsible for the accountability of all simulators and pyrotechnics.

b. Turn-in pyrotechnics when there is --

(1) Evidence of moisture within the item.

(2) Any indication of mishandling (cracks, dents, breaks, etc.).

c. Do not touch malfunctioning pyrotechnics/simulators, and report them to Range Control.

d. During training, report the location of duds or abandoned devices to Range Control IAW procedures in chapter 3, section I, paragraphs 3-3 and 3-4c.

e. Pyrotechnic restrictions.

(1) Range Control may issue pyrotechnic restrictions during windy or dry periods.

(2) DPTM will inform units of the exact restrictions.

(3) During these restrictions, Range Control may allow units to use certain types of pyrotechnics. Contact Range Control for information.

3-15. RIOT CONTROL AGENTS (RCAS)/SMOKE.

a. Use of RCAs in training is limited to the CS, CSX, CS-1, CS-2, and CR. All other RCAs are prohibited for training use.

b. Do not employ RCAs without the approval of Range Control. Submit requests for use of RCAs at least 3 weeks prior to exercise.

c. Do not allow the effects of RCAs to leave Fort Sill or drift into the cantonment area. Limit the use of Chemical Smoke (CS) to 1,000 meters from the installation boundary and 500 meters from hardball roads and built-up areas.

d. Unit commanders are encouraged to use good judgment and discretion when using RCAs or smoke devices in situations involving moving vehicles or aircraft.

e. Do not employ RCAs any closer than 1,000m from the installation boundary and 500m from any improved road.

f. RCA Freeplay Unrestricted Use Area.

(1) Bounded by grids ND 3936, 4136, 4138, 4038, 4037, 3937, and 3936.

(2) Prior to employing RCAs and/or smoke at any location, including the RCA free play area, units will contact Range Control to determine if any restrictions are in effect.

(3) Conduct a reconnaissance prior to releasing RCAs within 200 meters of Blue Beaver Valley Road so that nonmilitary or nontactical personnel will not be affected.

SECTION IV AMMUNITION

3-16. CARE AND HANDLING.

a. The OIC/NCOIC of any exercise involving the use of ammunition will conduct an ammunition safety briefing prior to issue. At a minimum the briefing must cover --

- (1) The dangers of ammunition tampering.
- (2) The handling and firing ammunition.
- (3) The proper storage.
- (4) The steps to take in the event of an ammunition mishap.

b. Units will strictly adhere to directives in FM 6-50, DA PAM 385-64, TM 43-0001-28, AR 385-63, and the appropriate weapons operator's manual at all times at firing positions.

c. Units that bring their own ammunition or that have ammunition shipped in for their use must adhere to the following procedures:

(1) Ensure Fort Sill Ammunition Supply Point (ASP) inspects ammunition prior to its use.

(2) Ensure that the Fort Sill ASP has verified, in writing, that the ammunition has not been suspended or restricted from use.

(3) Provide the ASP with contact numbers so that it may contact the using unit in the event any ammunition lot is suspended for firing after its issue.

(4) Ensure artillery ammunition is cleared for overhead fire. If it is not, conduct special coordination through Range Control.

3-17. MOVEMENT REQUIREMENTS AND RESTRICTIONS.

a. Transport and handle ammunition only under the direct supervision of personnel who are thoroughly familiar with safety regulations listed in AR 385-63, AR 385-62, DA PAM 385-64, FM 5-25, and in TM's for specific weapons.

b. Use dunnage, blocking, and tiedown straps in accordance with USAFACFS Reg 385-10. Secure ammunition in such a manner as to prevent any movement.

c. Vehicle operators transporting or uploaded with explosives will adhere to the following:

(1) Emplace "EXPLOSIVES" signs on the front, rear, and each side as outlined in USAFACFS Reg 725-1. Cover or remove signs when vehicles are not carrying explosives.

(2) Meet regulatory requirements listed in AR 385-63, DA Pam 385-64, and in TMs for specific reference.

(3) Carry two working 10 BC-rated fire extinguishers. This requirement is satisfied by portable fire extinguishers on wheeled vehicles, or one portable extinguisher on tracked vehicles, provided the tracked vehicle is equipped with an operational internal fire extinguishing system.

d. Units desiring to carry troops and ammunition together in vehicles designated as prime movers for towed howitzers will verify that the ammunition is secured in such a manner as to prevent any movements (in accordance with DA Pam 385-64), and that troops are seated on seats designated for that purpose.

e. Draw ammunition from the Ammunition Supply Point (ASP) and transport it to a field staging area. The following rules apply to field staging areas:

(1) Locate ammunition outside the cantonment area, at least 400 meters from post and cantonment area boundaries, and public traffic routes.

(2) Unit can set up ammunition on established firing positions.

(3) Do not set up ammunition in the LTAs between Miner Road, the ASP, and the MOW-WAY parking area.

f. Units may distribute ammunition according to the following rules:

(1) To tactical vehicles IAW TMs for that vehicle.

(2) Units may carry propellant and projectiles on firing vehicles designed for that purpose.

(3) Do not transport projectiles while fuzed except when issued as a fuzed round.

(4) Separate noncompatible components as much as possible.

g. Combat configuration is defined as the transportation of explosives and their components that are not of a compatible nature as listed in DA Pam 395-64. Units must adhere to the following while in combat configuration:

(1) Unit commanders may transport ammunition if the vehicle has been designated for the same (e.g., M109 howitzer).

(2) Units may move on the following approved routes only.

Combat Configuration Movement Table
East to west and vice versa southeast on Punch Bowl Road to ND 539/387
East on gravel road to ND 545/386
North on tank trail to ND 547/391 crossing Apache Gate Road
East on road past Ennis Knob to ND 560/382 (Quinette Road intersection)
From Quinette Road intersection continue east on Quinette Road to East Range, and west on Quinette Road to ND 560/382
West on paved road past Ennis Knob to ND 547/391
Cross Apache Gate Road to tank trail and proceed south to ND 545/386
West on gravel road to ND 539/387
Northwest on Punch Bowl Road to West Range area
Anywhere along East Boundary Road

h. Units can transport ammunition in the cantonment area in standard configuration. Refer to USAFACFS Reg 385-10, for routes. Do not transport fuzed ammunition in the cantonment area.

3-18. MALFUNCTIONS, DISPOSAL, AND USAGE RESTRICTIONS.

a. In the event of an ammunition malfunction or any significant weapon malfunction that causes a serious incident, the RSO/OIC will do the following:

- (1) Suspend firing, place weapon in "Cease Fire Freeze."
- (2) Ensure the weapon and/or ammunition involved remain intact.
- (3) Contact Range Control.
- (4) Continue training when released by Range Control.

b. Occasionally, units may experience malfunctions where the projectile fails to exit the tube. In the event of a "sticker," take the following actions:

- (1) RSO will immediately call a check firing on that piece and notify Range Control.
- (2) Evacuate personnel.
- (3) Personnel **will not** tamper with the weapon prior to the arrival of representatives from DOL.
- (4) The DOL representative will determine what actions will be taken to clear the weapon.

(5) EOD will not attempt to extract the projectile until the DOL representative and commander approve.

c. Dispose of excess propellant as follows:

(1) A command safety certified officer/NCO (SSG or above) will supervise the training for disposal of propellant.

(2) Transport excess propellant to the powder burning area in a metal container on a cargo vehicle with a metal cargo bed, with explosive signs, and operational fire extinguishers.

(3) Do not transport other material, equipment, or passengers in the cargo bed with excess propellant.

(4) Authorized areas for powder burning are as follows:

EAST RANGE	WEST RANGE
ND 592396 (Dodge Hill)	ND 419375 (Blue Beaver) ND 537403 (Snow Ridge) ND 494349 (MOW-WAY)

(5) Units must check-in with Range Control, identifying the unit, OIC, and location.

(6) Only one unit at a time is authorized to use a powder burning area.

(7) All vehicles will remain on the gravel road.

(8) Personnel and equipment (except a two-man burning detail) will be at least 50 feet from the burning site.

(9) Powder burning must be done in the center of the lane.

(10) There will be sufficient number of personnel standing by to utilize two shovels, four fire beaters, and ten gallons of water to control/extinguish the fire.

(11) Range Control may restrict powder burning in the following instances:

(a) When surface winds exceed 18 knots.

(b) The fire urgency status code is RED.

(c) As other safety considerations may warrant.

d. Upon completion of powder burn, units must accomplish the following prior to receiving check-out codes:

(1) Contact Range Control to have the completion time recorded.

(2) Stay on site for 10 minutes after contacting Range Control to ensure the fire is completely out.

(3) Request check-out codes upon completion of the 10 minutes.

e. Restrictions.

(1) Firing unfuzed projectiles on any Fort Sill range is prohibited.

(2) AR 385-63, chapter 11, discusses ammunition clearance for overhead fire. When personnel occupy any part of surface danger Area D, use only lots of ammunition cleared for overhead fire. Most firing positions at Fort Sill require the use of ammunition cleared for overhead fire. Clearly mark ammunition requisitions "For Overhead Fire" whenever personnel may be in Surface Danger Area D.

(3) Do not use copperhead, RAP, and ICM for overhead fire.

(4) If ammunition is not cleared for overhead fire, block roads and tank trails passing under the trajectory of artillery ammunition and remove personnel from Area D before firing commences.

(5) Artillery ammunition used in training exercises involving overhead firing in close support of ground troops by overhead or flanking fire will be from the same lot number for each exercise. If you must change lot numbers, complete a Registration with the new lot prior to firing overhead of unprotected troops.

(6) Precutting of powder charges **is not** authorized except for controlling demonstrations where a registration has been conducted or for training in preplanned fire missions (Fire Plan, Time On Target, Priority Targets).

(7) Presetting of time fuzes is not authorized unless the ASP issues time fuzes in lieu of PD. The commander may then authorize time fuzes to be preset to PD action (i.e., M564 must be set at 90.0). Presetting of fuzes is authorized IAW paragraph 3-18e(6).

(8) Never leave ammunition and/or residue powder increments unattended.

SECTION V TARGET EMPLACEMENT IN IMPACT AREAS

3-19. COORDINATION OF TARGET EMPLACEMENT. Units requesting to emplace targets in the impact area must coordinate through Range Scheduling for date and

times the impact area will be available. Once scheduled, the unit must coordinate further with the following agencies:

- a. EOD support through 761st Ordnance Company, (EOD).
- b. Survey Information Center, Range Control, (survey support).
- c. Range Support Section, Range Control, (targets, inspection to verify for drainage of all POL, and removal of all reflective surfaces).

3-20. PROCEDURES.

- a. Unit will provide the necessary manpower to remove reflective surfaces, drain all fluids, and move targets to the impact area.
- b. Range Control personnel must inspect targets prior to moving the targets to the impact area.
- c. Unit will provide a medic or combat lifesaver with aid-bag while in the impact area.
- d. All unit personnel must have helmet and flak vest when entering the impact area.
- e. If using helicopters, the unit is responsible for coordinating air support.

CHAPTER 4 MEDEVAC PROCEDURES AND REQUESTS

4-1. EMERGENCY MEDICAL SERVICE. Emergency medical service (ground or aero medical evacuation) is available to units in the field by contacting Range Control. Units may have to move injured personnel to a pick-up point (designated by Range Control).

4-2. MEDEVAC PROCEDURES.

a. MEDEVAC Request. To request emergency service call Range Control. State the emergency and transmit the following 6-line request in this format:

6 LINE MEDEVAC REQUEST	
LINE	INFORMATION REQUIRED
1	Pickup Location (Grid Coordinates or Training Facility Name)
2	Number and Type of Patients (e.g., Ambulatory or Litter)
3	Description of Each Person's Injuries
4	Special Equipment Needed
5	Call Sign at the Pickup Site
6	Method of Marking Pickup Site (e.g., Panels, Smoke, Lights, etc.)

NOTE: Post a copy of this MEDEVAC request near every vehicular radio where the RTO can easily read it.

b. Patient Data. Send the patient(s) last name and last four of the service number to Range Control as soon as available so medical records can be on hand at the hospital. **Do not wait** for this information before contacting Range Control to request a MEDEVAC.

c. Frequencies. Range Control will instruct unit to go to MEDEVAC frequency (sc/pt 32.20), to talk directly with the MEDEVAC.

d. Helicopter Landing Zones. Units will incorporate selection of helicopter landing zones (LZ) into their field SOP.

e. Organic Medical Assets. Units with organic medical assets are expected to use them for normal field medical coverage before requesting additional support. This includes combat medics and combat lifesavers. Units should equip these personnel with a complete first aid kit.

CHAPTER 5 ARTILLERY LIVE FIRE PROCEDURES

SECTION I ALL ARTILLERY UNITS

5-1. RESPONSIBILITIES.

a. Commanders/Directors.

(1) Major subordinate commanders will establish procedures for qualifying and certifying personnel required to perform safety duties. Ensure range safety certification rosters are on hand at Range Control, signed by the battalion commander/director/commandant, and are updated at least annually, but preferably when changes occur. DPTM can decertify an OIC if he/she ignores USAFACFS Reg 385-1. If DPTM

decertifies an OIC the next commander in the chain of command above the original certifying officer verify the recertification. At a minimum, the following criteria must be met:

(a) Prior to certification, personnel will be mentally well and will demonstrate proficiency on this regulation and the weapon system to be used.

(b) Administer comprehensive, written, and hands-on examinations.

(c) Examinee must attain a passing score to be eligible for certification.

(2) Commanders/directors will designate personnel to perform the duties of OIC/RSO prior firing exercises.

(3) The chain of command to which the Range Safety Officer is assigned will have complete responsibility for all aspects of firing and firing safety.

(4) Commanders/directors will investigate firing incidents after notifying Range Control.

b. Range Safety Officer in Charge (OIC) for artillery units.

(1) The OIC will be present in each firing position when using the training area method or in a firing point which requires a separate Range Safety card for that particular firing point, which is obtained at Range Control.

(2) During firing in support of USAFAS instruction, the RSO will coordinate all aspects of the school training with the instructor being supported.

(3) When USAFAS instructors are conducting an exercise on a range, the designated officer instructor will become the OIC and assume the safety responsibilities associated with that title.

(4) While live firing is in progress, limit the OIC's duties to those he/she can perform without leaving the firing position.

c. Range Safety Officer (RSO).

(1) RSO duties include, but are not limited to--

(a) Establishing an overall safety system within the firing position.

(b) Ensuring personnel required to perform safety checks are competent, properly briefed on their duties, and command certified by their unit.

(c) Enforcing compliance with this regulation.

(d) Assisting OIC in his/her duties.

(2) Before departing for the range, the RSO and safety personnel should understand, comply with and have available the following references:

(a) AR 383-63.

(b) USAFACFS Reg 385-1.

(c) USAFACS Reg 385-10.

(d) Any applicable FMs (i.e., 6-40, 6-50, and 6-60) and TMs for the weapon system being used.

(3) The RSO will ensure the following equipment is on hand and in the field:

(a) Authorized Range Safety Card issued by Range Control when firing from a firing point.

(b) Applicable TFTs.

(c) Applicable GFTs or properly functioning BUCS/BCS/FDS.

(d) Applicable GSTs.

(e) Current map of the area.

(f) Two properly functioning and declinated aiming circles (non-Paladin cannon unit only).

(g) Serviceable gunner's quadrant.

(4) Before firing, the RSO will conduct the following safety checks:

(a) Verify the Range Safety Card issued by Range Control applies to his/her unit, exercise, and date, and confirm any pen-and-ink changes with Range Control.

(b) Prepare the safety diagram. The RSO will possess all Range Safety Cards, safety diagrams, and safety Ts applicable to the firing for which he/she is responsible.

(c) Ensure all personnel performing safety duties and checks have copies of appropriate safety Ts.

(d) Verify personnel responsible for safety checks are command certified.

(e) Verify the guns/launchers are in the position specified on the Range Safety Card.

(f) Verify the azimuth of lay used to compute the safety diagram and lay the howitzers as dictated by the FDC.

(g) Verify the FDC has the Safety card/diagram and all no fire areas are plotted on the firing chart and map.

(h) Verify Wet check-in code has been obtained from Range Control.

(i) Verify minimum quadrant elevation (min QE) determined by the executive officer/firing platoon commander.

(j) Compare the XO's Min QE for the minimum range to the Range Safety Card, using the larger of the two as the safe QE.

(k) Ensure that firing does not commence until rounds can be observed by a Forward Observer or electronically with RADAR.

(l) Brief observers to be alert for rounds out of impact and give Range Control location if any DUDs are observed.

d. Platoon Leader and Platoon Sergeant. Platoon leaders and sergeants are responsible for--

(1) The general safety practices of the firing platoon.

(2) The professional competence of their personnel.

(3) The supervision of the safe firing of the battery, to include proper performance of safety duties by personnel and elimination of unsafe conditions.

e. Section Chiefs.

(1) Section Chiefs are responsible for safety checks required within his/her section to include checks of the weapon and ammunition, provided he/she is command certified.

(2) During firing, section chiefs will perform the following:

(a) Ensure rounds are fired above Min QE, below Max QE, inside lateral safe deflection limits, and with fuze settings at or above MIN Time, according to his/her safety T.

(b) Command "CHECKFIRING" and cite reasons when firing data is unsafe.

- (c) Verify safety of weapon settings and crew actions prior to commanding "FIRE."
- (d) Command "CHECKFIRING" if he/she observes any unsafe conditions.
- (e) Report unsafe conditions to the chain of command.
- (f) Suspend firing until all unsafe conditions are corrected.
- (g) Verify the ammunition to be fired is the type specified on the Safety T.

f. Fire Direction Officer, to include Battery Operations Officer and Platoon Operations Officer.

(1) The Fire Direction Officer will--

- (a) Verify the safety limits from the safety diagram
- (b) Verify that all No Fire Areas are properly plotted on the firing charts or map.
- (c) Ensure only safe fire commands are transmitted to the firing sections.
- (d) Verify and apply either MET + VE or registration corrections to cannon artillery.
- (e) Verify and apply MET to MLRS safety diagrams/T's.

(2) The Fire Direction Officer may be either a commissioned or noncommissioned officer.

g. Forward Observers. Units will assign personnel to perform the duties of forward observers when live rounds/rockets are to be fired. Responsibilities of personnel assigned as forward observers include--

(1) Ensuring they are checked in by the unit they are supporting.

(2) Maintaining communications with the element they are supporting. (They need not maintain communications with Range Control.)

(3) Engaging only targets they are able to observe are unless radar is available to support the firing unit.

(4) Plotting all No Fire Areas and the safety limits of the unit they are supporting on a map.

(5) Engaging only targets contained within authorized safety limits.

(6) Calling checkfire and reporting any rounds unobserved or rounds observed out of impact. If a round impacts out of safety fan, announcing "Cease Fire Freeze" to the FDC who will contact Range Control immediately.

(7) Reporting location of DUDs to FDC who will report them to Range Control.

(8) Plotting all targets on his/her map prior to calling for fire.

(9) Being trained to observe impact locations/warhead events of rounds fired by the supporting unit.

(10) Being equipped with any necessary equipment to safely observe live rounds (e.g., NVGs for nightfire, etc.,).

5-2. GENERAL PROCEDURES/INFORMATION.

a. Administrative. Range Control will prepare and issue Range Safety Cards for approved firing activities from firing points. Do not use ammunition, fuze, weapon, type of fire, or charge other than that authorized by the card.

b. Safety. Verify the accuracy of safety diagrams/safety Ts by independent computations. Firing position will include both sets of computed safety data.

c. Positioning/Survey.

(1) Unit OICs/RSOs will choose tactical firing positions which are at least 400 meters from post boundaries. Cannon units will also ensure that they account for Danger Area E when emplacing near public traffic routes. Once a position has been chosen, use the unit's organic survey section to survey each position (not including Paladin or MLRS systems).

(2) Unit survey personnel will select a suitable location for the survey control point (SCP).

(3) Survey personnel will use conventional survey techniques and/or position and azimuth determining system (PADS) to provide an accurate location of the SCP.

(4) The Range Safety Officer will verify the location of the SCP using the following methods--

(a) Resection.

(b) Graphic Resection.

(c) Precision Lightweight Global Positioning System Receiver on Figure of Merit 1.

(d) Map spot within 100 meters of the SCP.

NOTE: Do not use Precision Lightweight Global Positioning System Receiver to obtain or verify direction.

d. Observation of rounds/Firing Incidents.

(1) Units may use RADAR in lieu of, or in conjunction with, a forward observer when visual observation is limited or restricted. If used alone, the RADAR must operate in the "Hostile Fire" mode and the time interval between rounds for multiple round missions will be no less than 30 seconds.

(2) Units observing a round out of target area will immediately contact Range Control, which will then "Cease Fire Freeze" the responsible unit, if the unit can be immediately identified. The unit observing the round out of target area will submit the following report:

9 LINE ROUND OUT OF TARGET AREA SPOT REPORT	
LINE	INFORMATION REQUIRED
1	Date/time/location
2	Any injuries to personnel
3	Any equipment damage
4	Number of rounds out of impact
5	Airburst, estimated height
6	Ground burst (do not disturb crater or fragments until Range Control personnel arrive)
7	Location of observer
8	Source of round (if known)
9	Name and unit of person reporting

(3) Upon receipt of a round out of target area report, Range Control will issue the following directives-- "CEASE FIRE – FREEZE, CEASE FIRE - FREEZE. ALL INDIRECT FIRING POINTS, THIS IS FORT SILL RANGE CONTROL. CEASE FIRE - FREEZE."

(4) All controlling elements will stand by to acknowledge receipt of the call by responding with name and rank of OIC, when their location is called.

(5) Upon receipt of CEASE-FIRE message containing the word FREEZE, adhere to the following procedures:

- (a) Do not fire or move any weapons.
- (b) Leave sighting and aiming stakes in place.
- (c) Do not alter fire control equipment.

- (d) Do not shut off or alter fire direction equipment.
- (e) Do not move or touch ammunition, to include unused propellant bags.
- (f) Move all personnel at least 50 feet away from weapons and weapons vehicles.
- (6) Range Control will do the following in the event of a round out of target area:
 - (a) Notify key staff agencies IAW Range Control SOP.
 - (b) Give the authorization for units to begin incident investigation without disturbing any data or equipment.
 - (c) As the investigation proceeds, return units, determined to be safe, to a firing status.
 - (d) Report the incident to the Major Subordinate Command of the unit involved.
 - (e) If the incident was attributed to human failure, the Range Officer will request, through command channels, that the commander conduct a formal investigation.
 - (f) Advise subordinate commands if the incident involved suspended ammunition.
 - (g) Authorize continuation of operations when appropriate.
- (7) In the event a unit fires a round which is unobserved, follow procedures for a Round Out Of Impact with the exception that the unit will place itself in "CEASE FIRE FREEZE" and report the incident immediately to Range Control.
- (8) Unit responsibilities after a firing incident are as follows:
 - (a) After notifying Range Control, report the incident, through the chain of command, to USAFACFS Chief of Staff via telephone as soon as possible.
 - (b) The chain of command, (brigade commander, battalion commander, battalion CSM, and AR 15-6 Investigating Officer) will brief the Commanding General, Fort Sill, no later than the day following an incident, when a firing incident involved a round that left the installation, caused property damage, or personal injury. The briefing should include the cause of the incident, any preliminary corrective actions taken, and long-term plans to prevent recurrence.
 - (c) In the event of a round which impacted on the installation, outside of the impact area, with no property damage or personal injury associated, the aforementioned chain of command will brief the Commanding General, Fort Sill, the day after the appointing

authority has approved the AR 15-6 Investigating Officer's findings and recommendations.

(d) In the event a round impacted outside the unit's safety box, yet inside the impact area, the Bde commander will brief the first general officer in the unit's chain of command following approval of the AR 15-6 investigation results.

e. Surface Danger Areas (SDA).

(1) SDA D. Area for cannons, which is the "safe zone" within the surface danger zone where minimal hazards exist, provided certified ammunition for overhead fire is used (projectile, propellant, and fuze).

(2) SDA E.

(a) For cannon firing indirect fire, the area immediately in front of the piece bounded by the deflection limits expanded right and left by 445 mils and extending forward by 300 meters from a 105mm howitzer, and 350 meters for a 155mm howitzer.

(b) Personnel access to SDA E is prohibited. This does not apply to weapon crews firing from an approved tactical configuration.

(c) Artillery units will control access to all roads, which pass through their SDA E.

(3) SDA F.

(a) Area immediately to the rear of a rocket launcher, directly exposed to blast overpressure, fragments, and debris from rocket launch.

(b) Extends 350 meters to each side of the launcher and 400 meters to the rear.

(c) Personnel are prohibited from occupying Area F during firing.

(d) A noise hazard area extends an additional 500 meters past Area F and may only be occupied by mission essential personnel, wearing approved hearing protection.

(4) Exclusion Area I (MLRS).

(a) 1000 meter area that extends forward of the launcher.

(b) Personnel are endangered, by failure of the rocket motor, during boost phase.

(5) Exclusion Area II (MLRS).

(a) Area from the uprange side of the impact area back toward the launcher.

(b) Occupation of exclusion area II, by unprotected individuals, is authorized only by deviation.

f. No Fire Areas (NFA).

(1) Permanent NFAs are as follows:

PERMANENT NO FIRE AREAS		
RADIUS	NFA DESCRIPTION	GRID LOCATION
250m	West Lake Dam	ND 4542/3775
200m	Blockhouse Signal Mountain	ND 4667/3705
500m	Elgin Tank	ND 6450/4510
500m	I-See-O-Tank	ND 6280/4050
N/A	Heavily wooded areas within impact areas (e.g., Brush Creek Canyon and the area NNE of West Lake)	N/A
N/A	Kerr Hill Machinegun Range	West of grid 45 and South of 37

g. Impact Area Target Areas. All rounds fired on Fort Sill must impact inside one of the following target areas unless the unit has made prior coordination with Range Control and received a Range Safety Card that allows them an exception. These Target Areas account for all secondary danger areas and probable errors.

West Range Target Area		North Arbuckle Target Area		South Arbuckle Target Area	
A. ND 434/399	E. ND 459/367	J. ND 630/437	L. ND 630/414	P. ND 634/363	S. ND 617/375
B. ND 454/402	F. ND 447/362	K. ND 635/434	M. ND 619/421	Q. ND 608/363	T. ND 634/375
C. ND 480/390	G. ND 438/363			R. ND 612/372	
D. ND 480/369	H. ND 435/372				

h. Direct Fire Exercises (cannon only).

(1) When direct fire is employed, use the safety limits, taken from the range safety card, to compute low angle safety data. RSOs will construct a safety T to give to the section chiefs.

(2) Lay howitzers out using orienting angle, grid azimuth, or simultaneous observation methods orienting an M-2 aiming circle. Verify the azimuth of fire IAW Para.5-4c(3).

(3) Mark howitzers with deflection limits using tape, chalk, or safety markers for SP howitzers and stakes for towed howitzers.

(4) For range, even though firing is conducted with the use of the range scale in the direct fire telescope, the chief of section must verify the elevation with gunners quadrant.

i. Clearance procedures. Upon completion of training, the unit commander will ensure the following actions are completed prior to clearing the range:

(1) Conduct a thorough police of the range training facility and ensure no debris is left in the area. Do not bury or discard garbage and trash, accumulated by units bivouacked, on the range.

(2) Fill and level weapon spade holes, foxholes, slit trenches, sumps, etc.

(3) Report destroyed, damaged, or missing firing point markers and orienting stations to Range Control.

(4) Units receive all check-out codes.

SECTION II CANNON UNITS WITHOUT AUTOMATED FIRE CONTROL SYSTEMS

5-3. RESPONSIBILITIES.

a. Commanders will adhere to responsibilities as outlined IAW chapter 5.

b. RSO (IAW Chapter 5, Section I).

c. Platoon Leader / Sergeant (IAW Chapter 5, Section I).

d. FDO (IAW Chapter 5, Section I).

e. Section Chiefs will perform the following duties prior to live fire:

(1) Record lay data on gunner's reference cards.

(2) Ensure he/she has the proper safety T's for that firing position.

(3) Assist the RSO in accomplishing the following actions before firing:

(a) Verify the proper positioning of the aiming posts, collimator, or aiming point in reference to the referred deflection by sighting through the weapon sight.

(b) Verify boresight of each weapon after each change of firing position.

(c) Verify the sight settings (to include slipping azimuth scale).

(d) Verify the placement of safety stakes or safety tapes/chalk marks if the commander requires the stakes/marks.

(4) Verify the azimuth of lay for his/her howitzer by means of a compass.

(5) Fire only authorized, serviceable rounds of ammunition. (If there is any doubt whether a particular type round is authorized, he/she will check with the RSO before allowing the type round in question to be loaded and fired.)

(6) Confirm the proper charge increments for each type round are present before the round is prepared for firing.

(7) Once the round is prepared, verify the placement of the correct number and type of charge increments in the powder chamber before firing the howitzer.

(8) Prior to live firing into Quanah Special Effects Impact Area, conduct direct coordination with Falcon Range 442-6300, to ensure range is clear.

5-4. REQUIREMENTS/PROCEDURES.

a. Cannon units may use either the "Training Area Method", (i.e. Grid Method in FM 6-70), or the "Firing Point Method", (i.e. the Training Area Method in FM 6-70), to shoot on Fort Sill. This regulation will refer to these methods by the names used by Range Control. Method nomenclature, as stated in FM 6-70, is provided in order to clarify any differences.

b. Guidelines for Training Area Method of Safety are as follows :

(1) Each firing position will have a designated position center, battery center or center howitzer. (Use this point to initiate safety data computations.

(2) Safety Ts constructed, using this data, are valid for howitzers within a 200-meter radius.

(3) Compute a separate safety T on howitzers outside of the 200-meter radius of the position center or gun only when manual fire direction methods are used and TGPCs are not applied.

NOTE: SDAs, computed and constructed by Range Control personnel, already include piece displacement factors.

c. To verify Azimuth of Lay (AOL) do the following:

(1) Use a second aiming circle.

(2) Set up the second aiming circle (safety circle), at least 10 meters from the lay circle.

(3) Use any approved method (FM 6-50) to orientate the safety circle other than the one used to orient the lay circle.

(4) Allow +10 mils between the lay circle and the safety circle.

(5) Use +/- 2 mils tolerance between the safety circle and the gun.

d. Make initial targets visible and in the central portion of the safety fan prior to registration or application of MET + VE. This is to verify the location and lay of the weapon. Complete the verification and select a registration point as close to central portion of the safety fan as possible. After the registration, apply registration corrections to time, deflection, and quadrant limits. Units may fire a MET + VE check round in place of a registration.

e. The officer/NCO responsible for the operation of the FDC will have the following on his/her firing charts:

(1) Safety limits specified by the Range Safety Card drawn IAW FM 6-40.

(2) Lateral azimuth limits.

(3) Minimum and maximum ranges (to include doglegs).

(4) Any permanent or temporary no fire areas (NFAs).

f. To compute or verify safety data do the following:

(1) The position safety officer will use a range deflection protractor to construct a safety box within the target area, after the target area, and position center is plotted.

(2) Unit safety personnel are encouraged to use as much of the target area as possible and construct safety boxes that contain doglegs.

(3) Each firing position will have a firing chart or a mounted 1:50,000 Fort Sill map with the appropriate target area plotted on it.

(4) The RSO will verify that the safety box is contained within the specified target area.

(5) To construct a basic safety diagram, for safety computations, extract the following information from the constructed safety box:

(a) Left azimuth limit.

(b) Right azimuth limit.

(c) Minimum range.

(d) Maximum range.

(e) Azimuth of lay.

g. Obtain the following information from the Fort Sill 1:50,000 Range Map:

(1) Altitude of the firing position.

(2) Maximum altitude at minimum range.

(3) Minimum altitude at maximum.

h. MIN QE will be the higher of 267 mils, or XO's MIN QE when data is computed using the Training Area Method. Use information contained on the card to obtain MIN QEF or the Firing Point Method, only when issued a Range Safety Card from Range Control.

i. OIC and RSO will fire the first round from a new firing position as close to the center of the target area as observation allows.

j. Unit survey personnel and the RSO will decide on a suitable location for the orienting station.

k. Survey personnel will use conventional survey techniques and/or position and azimuth determining systems (PADS) to provide an accurate location of the ORSTA and azimuth to the EOL for each position.

SECTION III PALADIN UNITS

5-5. RESPONSIBILITIES.

a. Commanders will adhere to responsibilities as outlined IAW chapter 5.

b. One Paladin unit RSO is required per operational area, provided that all howitzers in the operational area are operating under one FDC. The RSO may also be the OIC and perform the duties of the platoon leader, platoon sergeant or fire direction officer. The RSO must--

(1) Be physically present within the training area or area of operation which includes--

- (a) Any of the weapon locations.
- (b) The Fire Direction Center (FDC).
- (c) The Platoon Operations Center (POC).
- (2) Be command safety certified on the Paladin weapon system.
- (3) Ensure that all safety requirements are met.
- (4) Verify the location of the SCP selected by himself/herself, battery commander, sergeant first class, or unit survey team.
- (5) Draw the sector of fire on the chart/map (brigade/division boundaries are equal to and represent the weapon's right, left, minimum, and maximum safety limits).
- (6) Ensure Safety T's are on the howitzers for illumination to include the following:
 - (a) Left Limit.
 - (b) Right Limit.
 - (c) MIN QE.
 - (d) MAX QE.
 - (e) MIN TI.
- c. Prior to live fire, a safety certified person, sergeant first class or above, must verify, at a minimum, the following:
 - (1) Automated Fire Control System database input for each gun section.
 - (2) Initialization grid (taken from a SCP).
 - (3) Internal communications in the gun.
 - (4) Direction.
 - (5) Fire control alignment test data (confidence check).
 - (6) Dry fire verification mission.
- d. Follow the procedures for occupation as outlined in unit SOP and the FM 3-09.70.

e. Duties of the Fire Direction Officer (FDO) in a Paladin Unit include:

(1) Ensure that the FDC Chief and himself/herself are safety certified

(2) Conduct a dry fire verification mission to a target, in the impact area, whenever there is a major change in the data base gun or FDC). Use only authorized charge and shell/fuze combinations for the dry-fire verification.

(3) Compare the Automated Fire Control System and the Lightweight Computer Unit/Battery Computer System data to ensure the computed data is within the following tolerances:

Verification Mission Tolerances	
Deflection	2 mil
Quadrant	2 mil
Fuze TI	0.1 sec
Fuze VT	1.0 increment

(4) Constructing firing charts IAW para. 5-5b(5).

(5) Computing safety and issue Safety Ts for Shell Illumination IAW para. 5-5b(6) of this regulation.

(6) Computing safety with box safety IAW FM 3-09.70

5-6. REQUIREMENTS/PROCEDURES.

a. Paladin will use only the training area method to tactically occupy and fire from locations within a scheduled training area. A position area can have up to a 750 meter radius.

b. Ammunition requirements specific to the Paladin System are as follows:

(1) Paladin units may travel with fuzed ammunition on the howitzer (only HE/PD-M557 and M739 fuzes) when the onboard fire extinguisher system is operational.

(2) Only the M557 and M739 series fuzes may be prefuzed. Do not mate Mechanical Time, Mechanical Time Super Quick, and Variable Time fuzes to projectiles.

c. Degraded operations are as follows:

(1) An operational Paladin will be the laying piece.

(2) An Aiming Circle will be the safety circle.

**SECTION IV
MLRS UNITS**

5-7. RESPONSIBILITIES.

- a. Commanders will adhere to responsibilities as outlined IAW chapter 5.
- b. Range safety officer (RSO) will adhere to responsibilities as outlined IAW chapter 5, Section I.
- c. Duties of the platoon leader/Sergeant are as follows:
 - (1) Compute and prepare safety data/safety-Ts as directed by the battery operations center.
 - (2) Ensure personnel understand and follow the correct procedures for conducting a live fire.
 - (3) Check the lot number of the launch pod container (LPC).
 - (4) Enforce safety policies and procedures established by AR 385-63 and post regulations.
 - (5) Check to ensure launchers are properly calibrated, updated and start-up data is correct. The following procedures apply:
 - (a) Survey stakes must have the unit designation and date on the tag. Units will remove the stakes after calibration is completed.
 - (b) Take care when making turns on asphalt roads to ensure the tracks do not tear up the road surface. Authorized roads for calibration runs are as follows:
 - (1) Elgin Road from North RETS to Geronimo's Grave.
 - (2) Blue Beaver Road from ND 403400 to the North Boundary fence line.
 - (3) Quanah Range South Boundary Road.
 - (4) East Boundary Road.
 - (5) McKenzie Hill Road.
- d. Duties of the launcher chief are as follows:
 - (1) Ensure that all procedures in the launcher are conducted IAW applicable technical manuals.

- (2) Verify launcher has a valid calibration and is updated with a verified SCP.
 - (3) Verify LPC lot number and that the proper data, according to the lot number is entered.
 - (4) Receive all instructions and firing commands from the controlling FDC.
 - (5) Verify launcher-firing position within a designated firing area with PDS; and PLGR or map spot.
 - (6) Check firing data with a Safety-T to determine if the launcher is laid and safe.
 - (7) Ensure latest meteorological (MET) message is used.
 - (8) Record all missions on a launcher fire mission log (DA 7233) and provide this log to the controlling FDC after firing.
 - (9) Verify all data prior to arming and firing the launcher.
- e. Duties of the Battery Fire Direction Center personnel are as follows:
- (1) The battery operations officer will perform the following:
 - (a) Check the computation of safety data/Safety-T's.
 - (b) Ensure the FDC has all safety data displayed properly in the battery and platoon FDCs.
 - (c) Review validity of MET and check that all launchers have valid MET, firing position and target locations.
 - (d) Direct the execution of all fire missions.
 - (e) Ensure copies of the LCU printout, launcher fire mission logs (DA 7233) and FDC fire mission logs (DA 7232) are maintained on all data pertaining to the live fire exercise for at least 30 days.
 - (2) The controlling FDC chief will do the following:
 - (a) Ensure LCU with operational printer is present.
 - (b) Print out all incoming and outgoing messages/data.
 - (c) Verify set up and operation of the LCU.

- (d) Verify all data sent to and received from the launchers is safe and correct.
- (e) Ensure data received by the launchers is within applicable safety parameters.
- f. Battalion S3 will--
 - (1) Request MET support.
 - (2) Request firing safety limits from Range Control.
 - (3) Ensure valid MET is on hand and transmitted to the controlling FDC.
 - (4) Maintain communications with Range Control, and monitor check-in and check-out codes for firing units.
 - (5) Ensure all Safety of Use Messages are on hand prior to the live fire exercise.
 - (6) Coordinate observation post locations with Range Control.
 - (7) Prior to live firing into or out of Quanah Range, conduct direct coordination with Falcon Range to ensure the range is clear.

5-8. REQUIREMENTS/PROCEDURES FOR LIVE FIRE.

a. General. **Any organization conducting live fire into or out of Quanah Range, must coordinate their activities with Falcon Range personnel at 442-6300 prior to their training date(s). This requirement is to ensure there will not be a safety conflict between US Air Force activities and Fort Sill artillery units.**

- (1) Units will not live fire without proper "wet" check-in code from Range Control.
- (2) Units must establish SCPs for updates and perform calibration runs.
- (3) Units must verify that SCPs are valid. Graphical resection or map spot methods may be used to verify the SCPs. You may use a PLGR only when the position error reading is + 20 meters, or when operating at a Figure of Merit (FOM) of 4 or less (i.e., FOM 1,2,3, or 4).
- (4) Launchers will not update on and subsequently fire off of the same point.
- (5) Loss of communications during live fire operations requires the unit to place themselves in a "dry" status until communications are reestablished.
- (6) Units will provide sufficient detail personnel to serve as a fire fighting team. The team will have an NCOIC, vehicle with radio, and sufficient fire fighting equipment (to include five gallon water cans).

c. MLRS Live Firing Safety.

(1) Range Safety Cards issued by Range Control contain the following specific information for all MLRS live fires--

- (a) Direction Limits (i.e., left and right limits for Safety-T).
- (b) MIN & MAX Ranges (i.e., to compute MIN & MAX QE & TI).
- (c) Specific rocket to be fired from that location (e.g., RRPR, etc.).
- (d) Unit, firing point, training area, dates & times for which the safety card is valid.
- (e) Road guard requirements (number & locations).
- (f) OPAREA/firing point boundaries.
- (g) Target area (a.k.a. Target Selection Box in FM 6-60) in which all rounds must be observed.
- (h) Any additional instructions necessary to fire from that area/firing point.

(2) Target areas issued on the Range Safety Card are equivalent to the refined Target Selection Box in the FM 6-60. As such, these areas need no further refinement and are used to compute safety and construct Safety-Ts.

(3) The following are the three methods for computing live fire safety for the MLRS:

(a) Point-to-Point. Safety T tolerances between check systems, used to construct safety Ts, for the Point-to-Point Method are in the chart below.

AZ & QE	+5 mils
Fuze Setting	+-.5 seconds

- (b) OPAREA.
- (c) Firing Point.

**CHAPTER 6
NONARTILLERY LIVE FIRE PROCEDURES**

6-1. GENERAL SITUATIONS.

a. Units desiring to train on special situations must contact Range Scheduling for approval.

b. Range Scheduling will issue safety cards with instructions applicable to the specific weapon system.

6-2. MORTARS.

a. Mortars will shoot only from established Fort Sill firing positions unless special requests are made through Range Scheduling and survey is available.

b. RSO requirements (paragraph 5-1) apply when firing mortars.

c. Safety data is computed in a similar manner as artillery. The range safety card for mortars will specify the following:

(1) Minimum and maximum range

(2) Minimum and maximum charge for each of the three standard elevations (800, 900, and 1065 mils)

(3) Left and right azimuth limits.

d. Modify deflection limits for mortars as in high angle fire, except move the left deflection limit left by the amount of drift corresponding to minimum charge and lowest elevation to be fired (minimum drift). Move the right deflection limit left by the amount of drift corresponding to maximum charge and highest elevation to be fired (maximum drift).

e. Mortar units may direct lay, but must compute safety data. They may lay with M-2 aiming circle, and place azimuth and deflection limit stakes so that acquired targets are in prescribed safety limits for that mortar point.

6-3. MINES AND EXPLOSIVE CHARGES. This paragraph prescribes general procedures for handling and detonating explosives, mines, and firing devices. It does not apply to projectiles, bombs, or fuzes.

a. Except for EOD operations conducted by the 761 Ordinance Company, demolitions operations OICs must rank SFC or above. The OIC must be on a current certification roster at Range Control and must be present at each shot. Duties of the OIC for demolitions are as follows:

(1) Supervise the preparation, placement, and firing of charges for a demolition project.

(2) Verify connections are inspected before firing.

3) Ensure no detonations will take place within 300 meters of the St. Louis-San Francisco Railroad (vicinity North Arbuckle and Beef Creek areas on East Range) or any main or secondary road unless roadguards are posted and traffic is halted.

(4) Be familiar with the requirements in AR 385-63, for detonation, mines, firing devices, trip flares, simulators, and explosive charges, prior to the exercise.

(5) Ensure safety restrictions and distances listed on the Safety Card (must be at demo site) are followed.

(6) Ensure demolition training operations are discontinued during or on the approach of an electrical or severe dust storm.

(7) Ensure charges are placed in the center of specifically prepared firing pits.

(8) Detonate charges from a position that allows a clear view of the pit and the immediate vicinity.

(9) Ensure only one charge is placed and fired in a pit at one time.

(10) Ensure the overpressure (blast effect) caused by the explosion does not exceed 2-lbs/sq. inch where personnel are located unless appropriate hearing protection is worn.

(11) Ensure charges placed on steel do not exceed two pounds and are fired within an appropriate confining structure with an excavated pit at least 1 meter deep.

(12) Ensure charges placed on concrete do not exceed forty pounds and are placed on the side nearest to the observers.

b. Firing shaped charges.

(1) Position shaped charges to direct the gas jet toward the target and when practicable, place on the side of the target nearest the observers.

(2) Observers will be at least 275 meters from the charge and in defilade, or at least 100 meters if in a missile proof shelter.

c. Firing cratering charges.

(1) Maximum charge to be fired in training will not exceed 320 lbs.

(2) Charges are detonated on soil free from gravel, rock, metal or other possible missiles to a depth of at least 6 inches.

(3) Provide a sandbag barricade of at least 1 meter above surrounding level ground between location of charge and personnel.

(4) Transmit the following information to Range Control prior to firing:

SHAPED CHARGE PRE-FIRING REPORT	
1	Type of charge to be fired.
2	Size of charge to be fired.
3	Location of detonation.
4	Expected time of detonation.
SHAPED CHARGE POST-FIRING REPORT	
1	Notify Range Control that "Detonation is complete".
2	Notify Range Control with DODIC

6-4. DIRECT FIRE WITH TANK MAIN GUN.

- a. Range Control will approve tank firing as required.
- b. Conduct direct fire and related firing activities in accordance with FM 17-12.

6-5. DIRECT FIRE WITH 90MM AND 106MM RECOILLESS RIFLE.

- a. Range Control will approve recoilless rifle firing as required.
- b. Conduct direct fire with the 90mm and 106mm recoilless rifles in accordance with FM 23-11, chapters 3 and 5.

6-6. FIRE AND MANEUVER EXERCISES.

a. Combined Arms Live Fire Exercises (CALFEX) are authorized within the limits of this regulation, AR 385-63, and the restrictions of the weapons and ammunition employed.

b. The command will designate a certified officer as OIC of a live fire and maneuver exercise. OIC requirements are listed in chapter 9 for this type of exercise.

c. Because of the inherent complexity of this type of exercise, comprehensive detailed planning is necessary between the OIC and Range Control. This planning should include the following:

- (1) The scheme of maneuvering and fire support plans.
- (2) The weapons, ammunition, and pyrotechnics to be fired.
- (3) The control of weapons and maneuvering elements.

(4) Survey and safety card requirements.

(5) The terrain and facilities desired.

d. Use only authorized weapons and ammunition, as shown on the Range Safety Card, during fire and maneuver exercises.

CHAPTER 7 LASER OPERATIONS

7-1. PURPOSE. Provide guidance on the use of tactical lasers, pointers, and markers on the Fort Sill Military Reservation (FSMR).

7-2. SCOPE. This chapter applies to all users of the Fort Sill Military Reservation. Range Control will develop procedures for experimental lasers or testing involving lasers, on a case-by-case basis.

7-3. RESPONSIBILITIES.

a. The Installation Safety Manager (ISM) has the following duties and responsibilities:

(1) Overall laser safety officer (LSO).

(2) Responsible for all aspects of laser safety on Fort Sill.

(3) Acts as range evaluator as outlined in MIL-HNDBK-828A.

(4) Responsible for ensuring laser users receive new or updated laser procedures and/or safety information.

b. The Range Safety Officer (RSO) has the following duties and responsibilities:

(1) Responsible for managing operations involving tactical lasers, including testing, on the range.

(2) Knowledgeable of current J-laser doctrine and TTPs and incorporates them into range procedures.

(3) Ensures range scheduling does not conflict to provide safe operations of tactical laser testing on Fort Sill. Acts as range operator as outlined in MIL-HNDBK-828A.

(4) Assists ISM in determining requirements for safe employment of tactical lasers.

c. Commanders/directors at all levels are responsible for ensuring compliance with the procedures in this chapter.

d. The Laser Range Safety Officer (LRSO) is responsible for the safe conduct of laser operations at lasing points.

(1) The LRSO must be knowledgeable on, and ensure compliance with--

(a) The contents of this regulation.

(b) The specific guidelines that ensure proper control of hazardous laser energy as described in MIL-HNDBK-828A.

(c) The requirements for laser operations in AR 385-63.

(d) Azimuth and elevation restrictions at lasing points. These restrictions are listed on the Laser Point Safety Data Card, obtained from Range Scheduling.

(e) Use of protective eyewear, by exposed personnel, when required.

(2) The LRSO must--

(a) Check in and out with Range Control IAW chapter 2, this regulation.

(b) Report, within 2 hours, any case of suspected eye exposure to laser radiation, Range Control, and the appropriate medical authority IAW TB Med 279.

(c) Provide a safety orientation to unit personnel, who work with lasers, to include an explanation of hazards and safety requirements.

7-4. LASER CERTIFICATION PROCEDURES.

a. Commanders/directors of laser users will--

(1) Train and certify LRSOs to ensure safe operations of lasers, on Fort Sill.

(2) Provide Range Control with rosters of certified LRSOs. (Certification/Range Safety Briefing period is 1 year.)

b. Commanders/directors may agree to consolidate certification training between organizations. Certification training will include, as a minimum, the following:

(1) Specific guidelines to ensure the proper control of hazardous laser energy outlined in MIL-HNDBK-828A, chapter 4.

(2) Guidance as outlined in AR 385-63, chapter 19.

(3) Written and hands-on instruction, on the system to be used, including doctrinal and technical aspects of laser employment, especially with regard to joint-laser procedures.

7-5. RANGE USAGE GUIDLINES. The following details guidelines for LASER usage on Fort Sill:

- a. Operate class 1 and 2 lasers anywhere.
- b. Use class 3 and 4 lasers only at lasing points designated by Range Control or in this regulation.
- c. LRSO must be present during all operations with a Class 3 or 4 laser.
- d. Units will schedule and occupy laser points, using the same process as for firing points.
- e. LRSOs must request a "wet" check-in from Range Control prior to using a Class 3 or 4 laser.
- f. Range Control will maintain a log of Class 3 or 4 laser use, showing date, time, laser point(s), target area(s), type of laser, and LRSO.
- g. LRSOs will place temporary warning signs at LPs, during lasing operations.
- h. LRSOs will cease all Class 3 or 4 laser operations if specular hazards are identified in the lasing area and continued use could cause the laser beam to be reflected off the specular object.

7-6. CLASS 3 AND 4 LASER POINTS. At Fort Sill, only use Class 3 or 4 lasers at the locations listed in the chart below.

a. MOW-WAY 1-1L thru 1-4L	ND 496351
b. McKenzie 2-1L thru 2-6L	ND 471350
c. Daly 3-1L thru 3-3L	ND 464351
d. Thompson Tower 4-1L thru 4-5L	ND 411393

7-7. SPECIFIC LASER SYSTEMS AND REQUIREMENTS.

TABLE 7-1 Fort Sill Specific Laser Systems and Usage Requirements							
DEVICE	NOHD NAKED EYE (m)	NOHD OPTIC AIDED (m)	HAZAR D CLASS	LENS OD (unaided viewing)	SIGN REQ	RC D/S (m)	BRIEF REQ
AN/GVS-5	2700	21000	3	4.4	Y	0/200	Y
AN/TVQ-2 (G/VLLD) Rg Finder Designat or	8000 25,000	40,000 80,000	3 3	5.5 5.5	Y Y	0/150 0/150	Y Y
AN/PAQ-3 (MULE) Rg Finder Designat or	6,500 20,000	35,000 79,000	3 3	5.6 5.6	Y Y	0/300 0/300	Y Y
MILES (large guns)	12	75	2	N/A	Y	0/0	Y
MILES (small guns)	0	0	2	N/A	N	0/0	N
HGSS	12	110	2	N/A	Y	0/0	Y
BELRF	*	*	*	*	*	*	*
LLDR Rg Finder Designat or	12 25,000	110 80,000	2 3	N/A 5.5	Y	0/0 0/150	Y Y
AN/PVS-6 (MELIOS)	12	110	2	N/A	Y	0/0	Y

* System to be fielded

NOHD - Nominal Occular Hazard Distance

OD - Optical Density

RC - Reflectivity Clearance

D/S - Diffuze/Specular

7-8. LASER PERMISSION BRIEFING.

a. The LRSO/LRSNCO will discuss, as a minimum, the following safety guidelines during a permission briefing, conducted prior to going "wet" on a LASER Operation:

(1) All individuals are safety officers. Anyone seeing an unsafe act is responsible for stopping the act and reporting it to the LRSO.

(2) A LASER is a direct fire weapon system. Rules that apply to direct fire weapons also apply to LASER systems.

(3) Do not stand in front of any LASER device.

(4) All targets must be within your safety limits. Do not lase the following:

(a) Targets on or above the horizon.

(b) Anything moving in the target area.

(c) Mirror like objects.

(d) Standing water/smooth ice.

(5) Announce "check firing" if you see any personnel in or about to enter the target area, or if you see any unsafe act.

(6) Stop lasing if you lose positive control of the laser.

(7) Do not lase any object within the reflectivity clearance of your laser (see table 7-1).

(8) Announce "lasing, lasing" prior to and while lasing.

(9) You must have target in the "cross-hairs" before you lase.

(10) Double check your azimuth and VA to ensure they are within allowable limits before lasing.

(11) If you have any questions or concerns about a particular target, ask the LRSO.

(12) Maps depicting the targets and/or target areas and their laser hazard area.

(13) Run-in headings and flight profiles to be used for airborne laser operations and permissible firing fans for ground based laser operations.

(14) Guidelines for controlling hazardous laser energy.

(15) Hazards of the laser and planned operations.

b. The LRSO will also ensure operators understand, explain, and backbrief the following:

Left limit	MIN VA	A/C run-in heading	MAX VA	Right limit

**CHAPTER 8
AIR OPERATIONS**

**SECTION I
GENERAL**

8-1. PURPOSE. Provide ground personnel a brief overview of the procedures and guidance for all air operations in the R5601 (Fort Sill) range complex.

8-2. SCOPE. The information in this chapter gives ground personnel a general understanding of all air operations in the R5601 range complex. Aircrews will use the detailed procedures contained herein to conduct all air operations.

8-3. OBJECTIVE. The objective of this document is to ensure effective training and safe operations on the Fort Sill range complex.

8-4. ADMINISTRATIVE.

a. The Air Force Representative's office at Fort Sill is responsible for preparing, updating, and coordinating this chapter.

b. Aircrews are responsible for complying with the procedures outlined herein and all governing regulations. Bring conflicts to the attention of the Air Force Representative's office at Fort Sill.

c. DPTM is responsible for monitoring Air Force operations for compliance with applicable post regulations.

d. Submit changes to this chapter to the Senior Air Force Representative, AFDC OL-Fort Sill.

8-5. EMERGENCY PROCEDURES.

a. The primary responsibility of the ALO/ETAC is to assist the aircrews where possible in the event of an airborne emergency. They can assist in providing radio relay

or advance information to controlling agencies, and may provide initial direction for search and rescue efforts.

b. In the event of a downed aircraft follow these procedures:

(1) Contact Range Control, provide coordinates of the crash site, and assist in locating survivors.

(2) If the survivors are located in the impact area, do not enter. (Large quantities of unexploded ordnance of all types are contained within the impact area.)

(3) If in radio contact with the survivors, suggest they limit their movement until qualified assistance can reach them.

(4) If the crash site and survivors are outside the impact area, ensure you maintain radio contact with Range Control as you move to assist.

8-6. AIRSTRIPS.

a. The following restrictions apply to use of airstrips on Fort Sill:

(1) Military personnel will not use airstrips on the Fort Sill Military Reservation for assembly, bivouac, or camping areas.

(2) Vehicles will stay clear of airstrip boundaries.

(3) Driving vehicles across airstrips is prohibited (except authorized vehicles performing official business on the maintained roads on the Frisco Ridge Airfield).

(4) Do not dig holes within 100 meters of airstrips and adjacent managed areas.

(5) Field communication wire will not cross boundaries of airstrips.

(6) Bury wire lines detouring around airstrips or place at least 50 meters from airstrip boundaries to eliminate hazards to operating aircraft.

(7) Do not tamper with windsocks at airstrips.

b. Airstrip Names and Locations.

NAME	LOCATION
Southeast Corner	ND 652/336
Rabbit Hill	ND 491/422
Frisco Ridge	ND 604/457

c. Emergency Airstrips.

AIRFIELD	HDG/DIST	RWY LENGTH	TWRFREQS
Henry Post AAF	105°/7.0 NM	5000'	229.4/124.95
Lawton Muni	135°/9.5 NM	8599'	257.8/119.9
Altus AFB	260°/37 NM	13,440'	255.6/119.65
Sheppard AFB	170°/42 NM	13,100'	272.6/119.75

**SECTION II
ARMY AIR OPERATIONS**

8-7. AIR TRAFFIC OVER RANGES.

a. The following describes R5601 (Fort Sill airspace):

(1) R5601 is the restricted area, which encompasses the entire Fort Sill Reservation.

(2) Range Control, DPTM, has exclusive user rights of airspace over the Fort Sill ranges up to 40,000 feet.

(3) The airspace within R5601 is closed to all unauthorized air traffic.

b. Air traffic desiring to enter R5601 must obtain authorization using the following procedures:

(1) Military aircraft will not operate in or within R5601 airspace until pilots obtain a range briefing from Range Control (Except when using the open air corridors, or Henry Post Army Airfield (HPAAF) Class D airspace).

(2) Range Control will issue authorization for each of the three Fort Sill ranges. **Authorization to operate over one range DOES NOT constitute permission to operate over the other two ranges.**

(3) Use one of the following FM frequencies to obtain authorization to enter R5601 airspace and operate over a specific range:

(a) 38.50 (East Range).

(b) 34.50 (West Range).

(c) 34.50 (Quanah Range).

(4) Pilots in charge (PCs) will contact Range Control to report mission and anticipated duration on the range. Provide subsequent changes to the mission to

Range Control before execution. It is the PC's responsibility to avoid briefed danger areas and hazards.

(5) For missions involving two or more aircraft, Range Control will only brief the flight leader.

(6) Constant monitoring of range frequency is required.

(7) When requested to do so by Range Control, aircraft will cease operations and depart the range immediately.

(8) PC will report to Range Control when mission is complete and that you are departing the range.

c. Air Corridor Procedures.

(1) Air corridors have been established through the Fort Sill Military Reservation (Restricted Area 5601).

(2) Corridors, with the exception of the East Corridor, are limited to an altitude of 200'AGL and below.

(3) Range Control will brief pilots on the air corridor status prior to them entering corridors.

(4) Aircraft will broadcast in the blind their entry and exit of corridors, on the air-to-air frequency (VHF 143.10).

(5) Aircraft transitioning through corridors will stay to the right of the corridor during transitions.

(6) The West Corridor, Visual Flight Requirement (VFR) only, extends 1/2 mile either side of the State Highway 115 from the south boundary to the north boundary of the Military Reservation.

d. Close Air Support (CAS) Procedures.

(1) When CAS is scheduled, Army aircraft must establish radio communications with the FAC, prior to going west of the 50 north-south grid line. (Frequency is UHF 356.5, or UHF 344.5, and call sign is N18.)

(2) Rotary-wing aircraft must stay alert for low-level jet traffic from the north-south grid line 34 through the north-south grid line 42.

e. Class D Airspace. Aircraft using Henry Post Airfield are allowed to operate within the Class D Airspace as described below:

(1) Beginning at LAT 34°38'15"N, LONG 98°26'48"W;

(2) Proceed clockwise along the arc of a 2.5 mile radius circle centered at LAT 34°38'18"N, LONG 98°24'07"W;

(3) To LAT 34°39'33"N, LONG 98°25'28"W;

(4) To LAT 34°34'12"N, LONG 98°26'18"W;

(5) Proceed clockwise along the arc of a 3-mile radius circle centered at LAT 34°38'18"N, LONG 98°24'09"W;

(6) To LAT 34°38'15"N, LONG 98°20'56"W;

(7) Proceed to start point.

f. Request for Check Fire in Instrument Flight Rules (IFR) Sectors. A request for check fire in (IFR) Sectors of East Air Corridor, by ARAC or Henry Post Tower (HPT) is restricted to the following conditions:

(1) Airfield is below VFR minimums and aircraft operating IFR are arriving or departing through East Corridor.

(2) Anytime an emergency exists and the pilot or controller believes flight through the IFR sector would enhance safety.

g. Required Check Fire. When a check fire is required, HPT or Army Radar Approach Control (ARAC) will call Range Control via hotline. Request for check fire is made no less than 5 nor more than 10 minutes prior to estimated time of aircraft entry into corridor, excluding request made due to an aircraft emergency.

h. Completed Check Fire. When Range Control is assured that a check fire is completed, they will notify HPT or ARAC.

i. Check Fire Termination. When the necessity for check fire is terminated, the requestor (HPT or ARAC) will notify Range Control that the aircraft has cleared the restricted area.

j. Completed Fire. Range Control will notify HPT or ARAC when the firing is completed within the East Corridor.

k. Hotline Monitoring. Range Control will answer the hotline from HPT or ARAC when there is firing from within the corridor. The commercial telephone system is used as a backup.

**SECTION III
FIXED WING AND NON-ARMY AIR OPERATIONS**

8-8. FIXED WING OPERATIONS.

a. Fixed wing air operations at Fort Sill support training of personnel in formal artillery school courses, operational joint force training, and service unique continuation training.

b. Aircrews are responsible for complying with the procedures outlined herein and all governing regulations. Bring conflicts to the attention of the Air Force Representative's office at Fort Sill at 442-2300.

c. Minimum altitudes are as follows:

(1) 500'AGL (helicopters on the range complex 200'AGL and below).

(2) Aircraft set ground collision avoidance systems (GCAS) or radar altimeters to 500'AGL.

(3) If the aircraft is not properly equipped or the system is inoperative, inform the ALO/ETAC prior to start of the mission.

d. Use of infrared counter measures (IRCM, self-protection flares) is authorized only during escape maneuvering following a hot or dry pass.

e. Use of electronic countermeasures (ECM, jamming or chaff) is PROHIBITED.

f. The highest peak in R5601B is 2208' MSL Mount Sherman at ND 382 387 / 34°41.3'N 098°34.9'W. Mount Scott is less than 3 NM north of the target area and rises to an elevation of 2,464' MSL.

8-9. RANGE SCHEDULING.

a. CAS missions are scheduled by Air Combat Command (ACC/XOOI) or by the 712th Air Support Operations Squadron schedulers (Fort Hood). These agencies will coordinate range times and locations with Range Control, Falcon Range, and ARAC. The Air Force Representative's office will assist in coordinating fixed wing operations activities where appropriate.

b. Units desiring to schedule range missions, for unit level continuation training must realize that Army requirements, for use of the range will have priority over aircrew training. To schedule unit level continuation training, contact the Fort Sill Air Force Representative, DSN 639-2300/3261/5002. Fort Sill Range Control is the final approving authority.

c. When mission is complete, inform Range Control of the amount and type of munitions expended by DODIC.

d. Flight level 240 is the maximum altitude scheduled unless higher is requested by the user.

e. Range Control will not schedule or man firing points 156W or 165W operations to run simultaneously, with live ordnance operations, by aircraft on the fixed wing impact area. Additionally, Range Control will restrict the use of lasers on Daly/McKenzie Hills during CAS to those operating in an eye-safe wavelength, beyond 500 meters.

f. When civil authorities request permission to fly missions through Fort Sill's restricted airspace, approval is granted on an individual mission basis, provided the following safety procedures are followed:

(1) Provide a minimum of 1 hour notice of flights/missions to Range Control. This is required in order to check fire all weapons in the affected area.

(2) Do not enter aircraft in restricted areas until you receive authorization from Range Control.

(3) Aircraft below 7,000 MSL will maintain constant radio communications with Fort Sill ARAC while operating in and around Fort Sill.

(4) Aircraft will cease operations and depart restricted airspace immediately upon request from Range Control.

(5) PC will report when the mission is completed, and unit has departed the restricted area.

g. If problems arise on the day of a scheduled mission (i.e., late sortie cancellation), contact Fort Sill Range Control at DSN 639-2994/2008, and Range Control will relay the message to the ALO/ETAC in the field.

8-10. NO ORDNANCE AREAS.

NAME	GRID LOC	LAT/LONG	RADIUS
West Lake Dam	ND 454/376	34°40.763'N / 098°30.264'W	500m
Signal Mountain Blockhouse	ND 467/370	34°40.435'N / 098°29.415'W	200m
Anywhere else outside of specified fixed wing target area	As Directed by Range Control	As Directed by Range Control	As Directed by Range Control

8-11. NOISE SENSITIVE AREAS (REMAIN ABOVE 2000' AGL).

NAME	GRID LOC	LAT/LONG
Lawton	N/A	N/A
Cache	ND 340/320	34°38'N / 098°38'W
Indiahoma	ND 230/310	34°37'N / 098°45'W
Medicine Park	ND 460/430	34°44'N / 098°30'W
Homa	ND 220/330	34°38'N / 098°45'W
Wichita Mountains Wildlife Refuge	Borders the north boundary of the R5601D complex beginning at approximately Medicine Park and extending westward approximately 15 miles. Minimum altitude is 2000' AGL, however, remain higher if possible.	

8-12. APPROVED ORDNANCE.

- a. Munitions approved for routine training on the Fort Sill Range include:
 - (1) BDU-50 (500 lb. inert bombs).
 - (2) BDU-33 (25 lb. practice bomb with spotting charge).
 - (3) 30mm/20mm practice rounds or the service equivalent.
- b. 30mm/20mm HEI may be approved on a case-by-case basis.
- c. Do not use 20mm HEI case telescoping ammunition.

8-13. TARGET AREA INFORMATION. Targets are located in the fixed wing target area approximately 3000 meters east from the impact area boundary.

- a. The fixed wing target area is described as--
 - (1) Located approximately 800 meters east of the impact area boundary road and extends eastward approximately 2500 meters.
 - (2) Located at the eastern end of the fixed wing target area approximately 3000 meters east from the impact area boundary.
 - (3) The final attack axis of approximately 095°, identified by a plowed area starting at ND 416/399 (34°42.162'N 098°32.743'W) and extending west for approximately 800 meters.
- b. The fixed wing target area boundaries are outlined by the following grid coordinates:

FIXED WING TARGET AREA		
ND 425/390	To	ND 425/400
ND 425/400	To	ND 441/400
ND 441/400	To	ND 450/390
ND 450/390	To	ND 445/384
ND 445/384	To	ND 435/384
ND 435/384	To	ND 425/390

c. 20mm and 30mm low angle strafe (LAS) and high angle strafe (HAS) may be conducted anywhere in the fixed wing target area described above.

d. Practice Ordnance Area is described as follows:

(1) The hill at ND 444/393 (34°41.685'N / 098°30.914'W) and at ND 441/394.

(2) The target consisting of armored vehicles located on a hill in the east-west valley situated in the north-central portion of R5601B.

(3) The practice bomb target array, centered at ND 441/394 (34°41.740'N 098°31.110'W) and consists of numerous armored and thin-skinned vehicles.

NOTE: Limit deliveries to targets within 400 meters north, south, and east of the target array center. (Personnel may deliver all approved practice ordnance on these targets.)

8-14. IMPACT AREA INFORMATION. The West Range Impact Area, (for aircraft usage), is described as follows:

a. West Range Impact Area, located in the north-central portion of R5601B.

b. Entry, identified by a north-south gravel road that borders its western edge.

c. The western boundary of the impact area, a prominent north-south dirt road (ND 417/385 / 34°41.00'N 098°32.45'W to ND 417/411 / 34°42.40'N 098°32.45'W) running across the valley.

d. There are numerous target hulks within the impact area that complicate identification of the fixed wing aircraft targets.

e. Target elevations range from 1400' to 1550'MSL.

8-15. TARGET MARKING. The following describes Target Marking on Fort Sill:

a. You may use artillery marking for all missions. Plan and schedule for all CAS missions during USAFAS student training, and for other missions when possible.

b. Artillery marks will normally be white phosphorous (WP), but could be high explosive (HE), smoke (HC), or illumination (ILLUM) rounds.

c. Conduct laser marking operations from Thompson Hill Tower only and coordinate with Range Control, prior to the mission.

8-16. LOCATION AND IDENTIFICATION OF FRIENDLY FORCES.

a. ALO/ETAC/vehicles are normally located at one of two prebriefed positions, Thompson Hill Tower at ND 410393, (34°41.694'N 098°33.141'W) or Thompson Hill Observation Point (OP) at ND 412407 (34°42.451'N 098°33.006'W). Aircrews can further identify Thompson Hill Observation Point by a large white cross, located on the western side of the hill, near the top. A large white tower, with a day-glow orange roof, identifies Thompson Hill Tower. Laser points are further identified with panel markers when lasers are in use. Consider both sites as manned. Avoid over flight of these and other known manned positions. When live ordnance is being used, all operations from Thompson Hill are suspended and the position unoccupied.

b. Coordinate laser operations prior to the mission and laser codes. Pass laser target line in the J-Fire brief. Aircraft comply with J-Laser procedures.

c. For safety, plan and schedule artillery marking during USAFAS student training or anytime large groups of personnel are in the vicinity of CAS operations. During other fixed wing operations, the ALO/ETAC will perform a risk assessment to determine the need for artillery marking. The artillery marking battery is normally located near the ruins at ND 409383. Gun-target line is approximately 0700 with a maximum ordinate of 3500'MSL (105mm). Artillery mark will normally be a (WP), but could be a (HE), (HC), or (ILLUM) round. There are numerous other firing positions that can be used. The ALO/ETAC is responsible for ensuring deconfliction of aircraft and artillery.

Note: ALO/ETAC will give minimum holding altitude, over the impact area.

d. Scout helicopters may be airborne in the immediate vicinity. The ALO/ETAC will notify the aircraft of this hazard in the remarks portion of the 9 line brief.

e. Airspace Coordination Area (ACA) Carlton may be in effect during the CAS TOT. When ACA Carlton is active, do not fly into the quadrant south and east of ND 380/370 (Hill 591). There will be active artillery firing positions in the area. Grids ND 380/370 to ND 360/330 to ND 500/330 to ND 500/370 to beginning and extending from surface to FL400 define boundaries

8-17. AIRSPACE COORDINATION AREA (ACA). You may use CA Carlton during the CAS missions. When ACA Carlton is active, the following rules apply:

a. Use ACA Carlton only when CAS aircraft use IP Bravo or Kilo.

b. Artillery firing positions south and east of the ACA do not fire into the ACA without prior approval of the ALO/ETAC.

c. Place all other firing points in checkfire.

8-18. ALO/ETAC RESPONSIBILITIES AND DUTIES.

a. The following are responsibilities of the ALO/ETAC personnel performing FAC duties at Fort Sill:

(1) Comply with all applicable regulations prior to and during any mission.

(2) Observe every precaution to provide maximum safety for their unit and any other units present in the vicinity.

(3) Monitor Range Control net at all times.

(4) The senior air liaison officer (ALO)/enlisted terminal attack controller (ETAC) will ensure each pilot/aircrew receives an over flight orientation of the target area, followed by a dry pass, to verify the target area and delivery parameters prior to making any hot or wet pass (ACCR 55-26).

(5) Ensure flight members acknowledge all ALO/ETAC positions, other known friendly positions, and range boundaries prior to release of any ordnance.

(6) Ensure all applicable regulations are followed prior to and during any mission.

(7) Ensure the safety of their unit and those they are aware of in the surrounding area.

b. The following are the duties of the ALO/ETAC personnel on Fort Sill:

(1) Control all fixed wing CAS missions on the Fort Sill range.

(2) Conduct safe operations in the field.

(3) Conduct appropriate mission planning to ensure correct frequencies, CPs/IPs, target coordinates, observation position, marking method/availability, ordnance, and residual risk assessment procedures to use.

(4) Perform a telephonic brief, (at a minimum), with the flight lead, flight member, or top three.

(5) Arrive at observation position a minimum of 30 minutes prior to the scheduled TOT and mark your position with marker panels that are clearly visible.

- (6) Check-in with range control to receive a wet check in code.
- (7) Establish ACAs, when required.
- (8) Request and annotate any restrictions passed on from Range Control at this time.
- (9) Check-in with the marking battery and brief them on marking requirements. Confirm type of ordnance (HE, ILLUM, WP) on hand, position, number/type on guns, and maximum ordinate for the target.
- (10) Complete and sign the daily risk assessment on-site to allow the ALO/ETAC to assess first hand the conditions prior to the mission.
- (11) Upon completion of the mission check out with Range Control and inform them of aircraft departure and or any unusual occurrences.
- (12) Debrief the participating units prior to departing the range, if possible, and (at a minimum) perform a telephonic debrief with the aircrew.

c. In the case of student training, a qualified terminal attack controller will conduct or supervise the following Certification Procedures for all CAS missions: Permanent party members (or 3 ASOG controllers) will observe the following guidelines prior to conducting missions unsupervised:

- (1) Receive local area brief by Range Control.
- (2) Receive airspace brief from ATC.
- (3) Possess a complete local area map, to include fixed wing target area boundaries.
- (4) Receive local orientation from USAF staff.
- (5) Observe one CAS mission on the Fort Sill range.
- (6) Perform six supervised controls on the Fort Sill range (at a minimum).
- (7) Receive terminal air control attack certification at any location.
- (8) 3 ASOG will forward a letter to Range Control verifying their controllers are terminal attack control certified and have completed local range orientation/training before allowing them to perform their duties on Fort Sill.

d. TDY personnel must receive the following:

- (1) Local area briefing from Range Control.
- (2) Local orientation by a qualified 3 ASOG controller.

(3) The 3 ASOG will inform Range Control, through a written memorandum, that the individuals are terminal attack control certified and have completed the local area check-out, except those cases where the 3 ASOG controller remains on-scene to perform supervision and safety observer duties for the duration of the TDY controller's activity.

NOTE: Personnel assigned to the Fort Sill Air Force Representative's Offices are no longer qualified as terminal attack controllers. Therefore, the 3d Air Support Operations Group (3 ASOG), Fort Hood, has assumed the responsibility for controlling fixed wing CAS operations on the West Range in support of USAFAS training.

8-19. WEAPONS DELIVERY RESTRICTIONS.

a. Range Entry. The ALO/ETAC will coordinate the range entry of all aircraft conducting missions under their control. Aircraft must not enter/transit any portion of R5601B, C, D, or E unless cleared by the ALO/ETAC or Range Control.

b. Orientation Pass. Aircrews will over fly the target area for a range orientation prior to any weapons delivery. When any type of ordnance is used, the aircrew will accomplish a dry pass to confirm delivery parameters and to positively identify the location of the target, marking laser and crew in relation to the target. Aircrews will confirm location of laser and crew to ALO/ETAC personnel prior to engaging any target with ordnance.

c. Attack Sequence. Clearance for the aircraft to depart the IP is as a Time on Target (TOT), Time To Target (TTT), or simply a "CLEARED TO DEPART THE IP" call. Call when IP inbound. A trail attack formation with 30 seconds minimum spacing will normally be used. Aircraft is cleared to release once they are on the final attack heading. After expending ordnance, the aircraft will immediately turn to the north, and egress to the last assigned IP or as directed.

d. Fighter Weapons Delivery Restrictions.

(1) Strafe. Use of HEI rounds are approved on a mission-by-mission basis. Treat all strafe targets as "hard" targets. Arm for strafe on final attack heading or in accordance with 55 series manual requirements.

(2) Live Ordnance (Bombs and HEI Strafe). Final attack heading for live ordnance will be $095^{\circ} \pm 10^{\circ}$. This attack heading runs down the center of the valley between Thompson Hill Tower (ND 410/393) and Thompson Hill OP (ND 412407). Thompson Hill will be unoccupied but, consider both sites as manned and avoid over flight.

(3) Practice/inert Ordnance. Restrict deliveries to 085°-120° for their final attack heading. The ALO/ETAC may provide further restrictions depending on the ground situation.

e. Bomber Weapons Delivery Restrictions for Live, Inert, and Training Ordnance Release.

(1) When working with bomber aircraft, the ALO/ETAC will perform the role of safety observer and ensure that all artillery fires affecting R5601B have ceased prior to the arrival of the aircraft.

(2) Event must be level or terrain following radar (TFR) delivery.

(3) Attack heading is 070° magnetic from IP Bravo.

(4) Maximum altitude is 5000'AGL.

(5) Maximum speed in R-5601 is 600 Knots True Air Speed (KTAS).

(6) Maximum bomb train (distance between first and last bomb) is 1500'.

(7) Minimum separation between aircraft is one minute.

8-20. GEOGRAPHIC REFERENCE POINTS.

NAME	GRID LOCATION	LAT/LONG	DESCRIPTION
CP Lima (L)	ND 446/476	34°46.174'N 098°30.757'W	North end of Lake Lawtonka, IRW (CH 88) 226056
CP Romeo (R)	ND 356/260	034°34.510' N 098°36.712' W	SPS (CH 74) 350035
P Bravo (B)	ND 271/352	34°39.503'N 098°42.255'W	Bomb circle on Falcon Range
IP Kilo (K)	ND 372/405	34°42.352'N 098°35.627'W	Ketch Lake
Point Sierra (S)	ND 467/370	34°40.435'N 098°29.415'W	Signal Mountain
Point Alpha (A)	ND 392/340	34°38.830'N 098°34.335'W	Two adjacent ponds
IP November (N)	ND 361/376	34°40.785'N 098°36.355'W	Small lake
Grid Zone Origin ("14S ND", NAD 83) = 34°20.584'N / 099°00.000'W.			

8-21. LOCAL FREQUENCIES.

ORGANIZATION	FREQUENCIES
Air Liaison Officer/Forward Air Controller (N18)	356.5(P) / 344.5(S)
Fort Sill Approach/IFR Clearance/Service/ VFR/Flight Following	233.2 / 120.55(P) 248.2 / 118.6(S)
Range Control	34.50(FM) 38.50(FM)
Fort Sill ATIS	241.0 / 135.425
Fort Sill METRO	375.2
Falcon Range	390.1 (P) / 385.9 (S)
Altus Approach	290.9 / 125.1 (P) 348.3 / 120.0 (S)

8-22. RANGE AIRSPACE.

a. Aircrews will be operating under visual flight rules (VFR) conditions when in R5601B, C, D, E, and the northern portion of the Fort Sill Class D surface area.

b. R5601 C, D, and E define the airspace for Falcon Range, which is an Air Force Reserve practice bombing range.

c. Avoid R5601A unless coordination has been made for its use with the Air Force Representative's office at Fort Sill.

d. Avoid the Henry Post AAF Class D surface area (surface to 3700'MSL), and the Lawton Municipal Class D surface area (surface to 3700'MSL) at all times.

8-23. CONTINGENCIES WITHIN RANGE AIRSPACE.

a. Contingencies. The ALO/ETAC will direct an abort if problems arise that could jeopardize the aircraft or ground personnel. The aircraft will discontinue the attack and make a turn back to the last assigned IP.

b. Departure. ALO/ETAC will confirm the aircraft are "switches safe" prior to exiting R5601. Ensure that aircraft continue to comply with any control measures still in effect.

PROBLEM	FIGHTER	BOMBER
Abort	If on ingress to tgt area, discontinue, by turning back to the last assigned IP, remain in Range Airspace. Climb to an altitude above 3500'MSL	If on ingress, (after IP Bravo), discontinue the attack by making a climbing left turn to the north until clear of the impact area. Save the release system and climb to a minimum altitude of 4500'MSL to transit the airspace over

	while avoiding the Gun-TGT line of the artillery; if on final attack heading, immediately break off and turn north until clear of the impact area. Climb to an altitude above 3500'MSL or as directed by ALO/ETAC; In each case, safe weapons as soon as possible.	the Wichita Mountains Wildlife Refuge.
Hung Ordnance/ Jettison	For jettison, make a level pass heading 095° + 10° at a safe airspeed and altitude over the fixed wing target area IAW flight manual procedures. When on a steady heading of 095° + 10° the ALO/ETAC will transmit clearance to jettison.	For hung ordnance, return to home station/ suitable field with any ordnance that failed to release IAW flight manual procedures; for jettison, fly the normal ground track and inform the ALO/ETAC of the problem and intentions. The ALO/ETAC will advise upon approach to the target for jettison.
Runaway Gun	Continue to track on final attack heading to keep gun pointed into the impact area. If a turn must be made, make a gradual turn to a heading of 070° and avoid populated areas. If practical, turn north or climb above 3700' to avoid the Class D surface area.	N/A
Weather Route Abort	If inadvertent instrument meteorological conditions (IMC) are encountered while operating VFR on the range, climb to a minimum altitude of 3500'MSL then make a turn to the north. If IMC, set IFF code to 7700, contact Fort Sill Approach, and remain below 7000'MSL until issued an IFR clearance.	Climb to a minimum altitude of 3500'MSL on the 070° attack heading, then make a climbing left turn to the north. If IMC, set IFF code to 7700, contact Fort Sill Approach, remain below 7000'MSL, until issued an IFR clearance, and safe the release system.
Lost Comms	Climb to minimum altitude of 3500'MSL. If single ship, attempt to fly over	Climb to 4500'MSL and fly the attack ground track. Fly the last 2 miles of the ground track while rocking wings. Over

	ALO/ETAC position while rocking wings. The ALO/ETAC will notify Fort Sill Approach. Set IFF code IAW FLIP and exit R5601B to the north or south as directed in para. 8D-27(e).	the target, execute a left turn to the north while setting IFF codes IAW FLIP. The ALO/ETAC will notify Fort Sill Approach.
Depart.	Confirm switches safe with ALO/ETAC, and be at or above 2000'AGL prior to departing R5601. If departing IFR, contact Fort Sill Approach for departure instructions. Maintain VMC below 7000'MSL until cleared to climb by Fort Sill Approach. Suggested IFR pickup point is the HBR 090021 for a north departure and the SPS 348035 for a south departure.	Contact Fort Sill Approach on 356.5/2333.2 on downwind of the last pass to convey intentions and coordinated for flight following or IFR clearance. If departing IFR, and do not have an IFR clearance, continue the left turn off target to a 360° heading maintaining VMC, and remain below 7000'MSL until Fort Sill Approach issues an IFR clearance. Each aircraft must file and receive a separate IFR clearance to depart Fort Sill Approach Control's airspace. Aircrew should file HBR 090021 as the first point outbound for an IFR clearance.

8-24. RANGE ENTRY.

a. Fighter, Range Entry. The ALO/ETAC will coordinate the range entry of all aircraft missions under their control. If arriving under instrument flight rules (IFR arrivals are recommended at Fort Sill.), notify Fort Sill Approach that you will be operating in R5601B and/or Falcon Range (R5601C, D & E define Falcon Range). Descend to visual meteorological conditions (VMC) prior to contacting the ALO/ETAC. Do not enter/transit any portion of R5601B, C, D, or E unless cleared by the ALO/ETAC or range control. Likewise, avoid the Henry Post AAF Class D surface area. If unable to contact the ALO/ETAC, attempt to contact Range control. Follow arrival procedures below and proceed to assigned IP when cleared by the ALO/ETAC. If assigned to IP Sierra or IP Alpha, hold VFR at 3500'MSL and above. Remain in the R5601 airspace and west of the ND 50 North-South grid line at all times. If assigned to IP Bravo, hold VFR at 5000'MSL and above to ensure line of sight radio communications capability between ALO/ETAC and fighters.

(1) North arrival. Proceed towards CP Lima and contact approach control prior to contacting the ALO/ETAC. If arriving VFR remain clear of the Washita Military Operating Area (MOA)(8000'MSL to FL 230) located north of R5601B and Falcon Range. If needed, hold VFR north of R5601B at CP Lima, altitudes between 3500' and 8000'MSL. Remain clear of the Fort Sill/Henry Post AAF Class D surface area at all times.

(2) South arrival. Proceed towards CP Romeo and contact approach control prior to contacting the ALO/ETAC. If arriving VFR remain clear of the Sheppard 1 MOA (8000'MSL to FL 220) located south of R5601B and Falcon Range. Use caution for substantial VFR traffic underneath the Sheppard 1 MOA. If needed, hold VFR south of R5601B and Falcon Range at CP Romeo, altitudes between 3500' and 8000'MSL. Remain clear of the Lawton Municipal Class D surface area at all times.

(3) Attack sequence. In order to operate in the confined airspace of R5601, fighter aircraft will use the following procedures on IP to target runs:

(a) Initial. Aircrews will receive a range orientation and accomplish a dry pass using planned release parameters on the intended target before actually releasing ordnance. For emergency CAS (ECAS) training involving Army students (Fire Support Teams, Forward Observers, or Fire Support Officers), the training scenario will be briefed on the ground or in the air prior to any hot passes. Following the range orientation, the ALO/ETAC will give the initial J-FIRE 9-Line brief for a demonstration pass. When conducting student training and the same IP is used, the Army student controller may pass only lines 4 through 7 of the 9-Line brief for subsequent attacks. Clearance to depart the IP will be given as a Time To Target: "STANDBY (min.) PLUS (sec) HACK" or simply a "CLEARED TO DEPART THE IP" call. In either case, make a "DEPARTING IP" call when IP inbound (points B, N, or K may be used as IPs). In a low threat scenario, proceed direct from the IP to the target area. In a high threat scenario, follow the ingress routing described below (all headings and distances referenced below are to the live ordnance target). A trail attack formation with 30 seconds minimum spacing will give the ALO/ETAC/student controller the opportunity to pass corrections to each aircraft engaging targets, in turn.

(b) IP Bravo. In order to maintain radio contact, weather permitting, remain at or above 5000'MSL until transmitting "DEPARTING IP." Depart on the briefed heading and make all offsets to the north (in order to avoid ACA Carlton and the gun target line). Remain within the R5601 boundaries. Point November and Kilo may be used as navigation points to the target area. Follow instructions for final attack sequence below.

(c) Point Sierra. Depart heading 240° for 4.4 NM to Point Alpha. Follow instructions for Point Alpha below.

(d) Point Alpha. Depart heading 270° for 1.5 NM and turn to the north before reaching the 1711'MSL tower at ND 354348. Do not fly west of HWY 115 (paved road north of the town of Cache, ND 3432). Fly over Point November to Kilo then follow instructions for final attack sequence below.

(e) IP November. Depart point November heading 010° for 2.7 NM to IP Kilo, then follow instructions for point Kilo. If IP November is assigned as the IP proceed direct from IP November to the target area, depart heading 071° for 4.6 NM then follow instructions for final attack sequence below.

(f) IP Kilo. Depart heading 092° for 3.9 NM direct to the target. Follow instructions for final attack sequence below.

(g) Final. Offset north to ensure a final attack heading of 085°-105° for live or 085°-120° for inert/practice. Make laser calls as required. Expect each aircraft to be cleared hot once on the final attack heading. Individual targets can be very difficult to see. If uncertain of exact target location go through dry. After expending ordnance, immediately turn to the north, then west to remain west of the ND 50 North-South grid line, and egress to the last assigned IP or as directed. Use caution if ACA Carlton is active.

b. Bomber, Range Entry. Prior to entry contact Fort Sill Approach and inform them you will be operating in R5601 and working with November 18. The ALO/ETAC will obtain and issue range clearance prior to entering their airspace. Do not enter/transit any portion of R5601B, C, D, or E unless cleared by the ALO/ETAC or Range Control. Fort Sill Approach will normally monitor the ALO/ETAC frequency and provide traffic advisories when necessary.

(1) Attack sequence. IP Bravo is the Falcon Range conventional bomb circle located at 34°39.503'N 098°42.255'W. Cross IP Bravo heading 070° magnetic and make an IP inbound transmission to the ALO/ETAC (add "System SAFE" on a dry pass). Terrain will limit radio transmissions in the area of IP Bravo. To eliminate this problem maintain 5000' MSL until departing IP Bravo. The target is approximately 9.6 NM from IP Bravo. On a wet pass, aircrew will not ARM the system for release until east of HWY 115 (paved road running north out of the town of Cache, 34°38'N 098°38'W). HWY 115 is approximately 5.5 NM from the target. Note: The radio antenna at 34°39.283'N 098°36.880'W can be used as a radar offset. The ALO/ETAC will state "Continue DRY" (meaning it is safe to continue pass, system will remain SAFE - do not drop any ordnance) or "Cleared HOT" (meaning it is safe to continue pass with system ARMED and cleared to drop ordnance) approximately 20 seconds prior to TOT for each aircraft. If necessary, the ALO/ETAC will transmit "ABORT" (an unacceptable condition exists, do not release any ordnance and SAFE the release system) to direct an individual aircrew to withhold release. If an aircrew does not receive a "Cleared HOT" call in time for weapons release, the aircrew will not release any ordnance and will SAFE the system.

(2) Post-attack. Begin an immediate climbing left turn as soon as possible after target flyover/ordnance release to avoid the Henry Post AAF Class D surface area that begins at 098°27'W and extends eastward. If unable to avoid entry in the Class D surface area, comply with the following procedures to avoid a possible traffic conflict:

(a) Maintain 4000'MSL minimum before crossing 098°27'W (western boundary of the Fort Sill Class D surface area).

(b) Maintain 4500'MSL minimum before crossing 098°25'W (extended runway centerline for Henry Post AAF).

(c) If returning to the range for another attack, continue the left turn and remain above 2000'AGL in the Wichita Mountains Wildlife Refuge area while en route. Follow the RANGE ENTRY and ATTACK SEQUENCE procedures detailed above.

8-25. AIRCRAFT CONTROL. ALO/ETAC will provide final control for all fixed wing air missions on the Fort Sill ranges. The exception will be for the bombers, where the ALO/ETAC will act as a safety observer and consent to weapons release. The ALO/ETAC will use direct control for all air missions on the Fort Sill range. "Cleared Hot" or "Continue Dry" will be issued on each pass. Clearance will be given on final with the aircraft aligned with the target, and the aircraft is in a safe position and will not jeopardize known friendly positions.

a. Radio procedures. Conduct air missions on the ALO / FAC (N18) net. The ALO/ETAC will monitor the Range Control net at all times.

b. Restricted/curtailed operations. The ALO/ETAC must make a risk assessment of the situation in the event of restricted/curtailed operations. Give consideration to type of ordnance on the aircraft, gun positions, established ACAs, aircrew proficiency, weather, and risk versus importance of the mission.

CHAPTER 9 PLANNING, OPERATING, AND SCHEDULING

SECTION I PLANNING AND OPERATIONAL CONSIDERATIONS

9-1. REGULATORY CONSIDERATION. Personnel responsible for preparing requests for range training facilities and for programming exercises and problems must consider the criteria established in AR 385-63.

a. No portion of the surface danger area for weapons or explosives will intersect or cross the following areas:

(1) Federal highways.

(2) Reservation boundaries. For the purpose of this regulation, State Highway 115 is considered to be within the Fort Sill reservation boundaries.

(3) Post ammunition storage and post ammunition vehicle holding area.

(4) Built-up areas.

(5) Railroad right-of-way, (50 feet either side of tracks).

USAFACFS Reg 385-1, 6 January 2003

b. Safety certification rosters must be on hand at Range Control prior to any unit conducting training on Fort Sill. Units, without a certification roster on hand, are not allowed to train on Fort Sill. The following are the minimum requirements for a certification to be accepted at Range Control:

(1) Must be signed by a Director, Deputy Director, Battalion Commander, NCO Academy Commandant, Brigade/Div Arty Commander, Senior Marine Corps representative, senior Air Force rep, or a LTC signing for the commander.

(2) Must be on hand at Range Control and updated at least annually, but preferably as changes occur.

(3) Certified individuals must read the Range Safety Brief at Range Control. This review is valid for 1 year.

c. A sample Safety Certification Roster is at figure 9-1. Use the following abbreviations in the "Certified For" portion of the memorandum. The grade to the right of each abbreviation is the **minimum** grade required to be an OIC of that range.

MLRS	Multiple Launch Rocket System	E7
HG	Hand Grenade (HE)	E7
HGP	hand Grenade (Practice)	E6
NBC	NBC Chamber	E6
9MM	Pistol	E6
M16	Rifle	E6
M4	M4 Carbine	E6
M2	.50 Caliber Machine Gun	E6
M60	7.62 mm Machine Gun	E6
M249	7.62mm Machine Gun	E6
M249	SAW	E6
MK19	40mm Grenade Machine Gun	E7
M203	40mm Grenade Launcher	E7
AT4	Anti Tank Weapon (HE)	E7
SUB	Sub Caliber AT4	E6
MINE	M18 Claymore	E7
TOW	TOW Guided missile	E7
25MM	BFIST	E7
DEMO	Demolitions	E7
LASER	Laser	E6
PYRO	Pyrotechnics/Simulators	E6
105MM	105mm Cannon	E7
155MM	155mm Cannon	E7
60MM	60mm Mortar	E6
81MM	81 mm Mortar	E6
120MM	120mm Mortar	E6

d. In the ID# portion of the certification memorandum, enter the last five digits of the individuals Social Security Account Number.

ATZR-ZX (385)

xx June xxxx

MEMORANDUM FOR RANGE CONTROL

SUBJECT: Safety Certification Roster

1. The following personnel of 1st Battalion, 11th Field Artillery, meet the safety certification requirements as specified in USAFACFS Reg 385-1, Safety Post Range Regulation, paragraph 9-1b, for the listed weapons ranges:

NAME	RANK	POSITION	ID#	UNIT	CERTIFIED FOR	EXPIRATION DATE
GIGIAN, Frank L.	CPT	OIC, RSO	56789	HHB	155MM, M16, HG	XX AUG XX
LAFONT, Lecu Z.	SFC	OIC, RSO	89012	HHB	DEMO, M16, 9MM	XX AUG XX

2. Point of contact is SFC Smoke, Assistant Noncommissioned Officer in Charge, Operations, 1-11 FA, at 442-1234/5678.

IMA B. IGROCK
LTC, FA
Commanding

Figure 9-1. Sample Safety Certification Roster

9-2. RANGE USE AUTHORIZATION. Units are authorized to use Fort Sill ranges and training areas only if the following criteria have been met:

- a. Units have submitted requests IAW this regulation.
- b. Requests for use have been approved.

c. Commanders of units using the Fort Sill Military Reservation are responsible for fulfilling applicable safety requirements of AR 385-63 and compliance with USAFACFS Reg 385-10, USAFACFS Reg 385-1, and applicable FMs and TMs for weapons and ammunition.

9-3. UNIT ASSIGNMENT PRIORITIES. Priority of units by headquarters and training cycle are--

a. No. 1 Firing activities directed by this or higher headquarters and units alerted for deployment (for actual contingencies and emergency deployment readiness exercises called by III Corps Artillery or higher headquarters).

b. No. 2 U.S. Army Field Artillery School and U.S. Army Field Artillery Training Center.

c. No. 3 Reserve Component units undergoing annual training.

d. No. 4 Firing activities of other post units, (e.g., III Corps Artillery) and off-post active U. S. Army units. Priorities by training cycle are set IAW III CA Annual Training Guidance.

e. No. 5 OTC Fire Support Test Directorate.

f. No. 6 Other training, including desired, but not required.

9-4. JUSTIFICATION FOR SOLE USE OF ROADS AND TRAILS. The assignment of a range training area does not include the exclusive use of roads and trails in the area unless approved by Range Control.

9-5. PERMANENT TRAINING AREA (PTA) ASSIGNMENTS. A permanent training area is a specific range area assigned to a command or activity in which structures and installations are authorized. Assignment of a permanent training area does not include the right to sole use of the area. All users including the sponsor, must schedule use in accordance with section II of this chapter. Use the following procedure to request a PTA.

a. Send requests for the assignment of a permanent training area to Chief, Range Control, and include as a minimum--

- (1) Justification for the assignment of the area.
- (2) Type and frequencies of activities to be conducted.
- (3) A 1:50,000 or 1:25,000 overlay of the boundaries of the area.

b. When a permanent training area is no longer required, the command or activity to which the area is assigned will coordinate the return of the area to general use status through Range Control.

9-6. LOCAL TRAINING AREAS (LTA'S). Training Command and III CA units utilize several training areas. Their use is scheduled thru Range Control with approval from the brigade.

9-7. AVAILABLE FACILITIES. A list and description of rifle and pistol ranges and other training facilities are in chapter 10.

SECTION II RANGE REQUEST PROCEDURES

9-8. SCHEDULING AUTHORITY. Range Control is approving authority for range requests. All range and training facilities on Fort Sill are installation assets managed by Range Control. Therefore, all units must schedule the use of these facilities with Range Control, even if they are the sponsoring unit. Special requirements of units, which cannot be accommodated by this regulation, will refer to Range Control for a decision.

9-9. RANGE REQUEST PROCEDURES.

a. Submit all requests via the Range Control Web Page on the Fort Sill Intranet at <http://range.sill.army.mil>.

b. Range Operations will schedule USAFAS and USAFATC training 9 weeks prior to the scheduled week of training and will process their requests prior to III Corps Artillery or other unit scheduling times.

c. III Corps Artillery and other units will schedule training resources 8 weeks prior to the scheduled week of training.

d. Range Operations will open the scheduling sessions, normally on Friday, per the following guidelines:

(1) The first scheduling session opens at 1000 to schedule III Corps Artillery units IAW their Annual Training Guidance. G3, III CA establishes the priority of units within III Corps Artillery.

(2) The second scheduling session opens at 1300 for other units to coordinate ranges and all other training areas and facilities.

(3) Range Control does not grant scheduling authority to any element lower than a battalion.

(4) Those units not submitting requests to Range Control at 1000 will lose their priority status and will schedule during the 1300 session with other units. Brigade representatives will settle any disputes within their brigade.

(5) Units may continue to request range facilities less than 8 weeks from the week of scheduled training on a "first-come-first-served" basis. Request firing activities no later than 2 weeks prior to date required. Generally, units can request nonfiring activities at any time. However, restrictions apply to some operations, such as black-out drive, digging operations, etc.

e. Units requesting co-usage of land/facilities will follow these procedures:

(1) Coordinate requests for co-usage of land/facilities with the scheduled unit.

(2) Requesting unit will obtain approval from the unit that originally scheduled the land/facility.

(3) Once the approval is granted, the requesting unit will schedule the land/facility via the Range Control Web Page.

(4) Requests must meet time lines in paragraph 9-19.

f. Any unit desiring to conduct blackout drive in areas or on days and times not provided for in paragraph 3-11 must submit a written request to Range Control at least 3 weeks in advance of the training date(s).

g. Range Control will also host a quarterly meeting to discuss unit land issues, scheduling problems, and to educate new unit land personnel in the scheduling process. The Operations Officer in Range Control's Conference Room, Building 2584, chairs this meeting.

h. For information or questions about the scheduling process or to obtain a password to access the scheduling portion of the Range Control Web Page, contact Range Operations at DSN 639-6191, Commercial 580-442-6191.

9-10. PROCESSING OF RANGE REQUESTS. All range requests are processed after the appropriate scheduling session is closed. Once approved, the unit is not bumped from its position, without the approval of the Director, DPTM.

NOTE: Units should coordinate with Range sponsors NLT 3 working days prior to the planned use of the range. Units requiring targets or keys may request them from Range Control Homepage.

9-11. NBC DECONTAMINATION TRAINING. Training requiring the use of a water source (pond) requires coordination with the Directorate of Public Safety (DPS) Environmental Quality Division (EQD). The unit will submit Categorical Exclusion thru Range Scheduling.

9-12. DEMOLITION TRAINING. Requests for training facilities to support demolition training must include firing and detonation location coordinates, type and amount of explosives, and expected times for detonation.

9-13. TRAINING INVOLVING DIGGING OR OTHER EARTH MOVING. Training requiring antitank ditching, road grading, bridging operations, or digging of any type are processed through Range Control for coordination with DPS Environmental Quality Division, Natural Resource & Enforcement Branch, for site approval. Only approved sites are used for these activities. Submit categorical exclusions NLT 6 weeks prior to the week of training. Categorical Exclusion, TRADOC Form 161-R is located at <http://range.sill.army.mil>, under DEQ Regulation.

9-14. OVERLAY FOR COMPLEX EXERCISES. Exercises involving several training, maneuver, or bivouac areas, or which involve smoke or chemical attacks, aggressor activities, etc., will include an activities overlay. The overlay and the request must identify terrain requirements, routes of march, location of special activities, and dates and times of use. Submit overlays and requests NLT 3 weeks prior to the week of training.

9-15. RESERVE COMPONENT GUIDELINES. Reserve Component units should follow the guidelines in USAFACFS Reg 350-1 prior to conducting training at Fort Sill. Fort Sill units acting as hosts for off-post units may schedule facilities for the sponsored Reserve Component unit. Additionally, Reserve Component units conducting training may schedule their range training requirements directly with Range Control via the Range Control Web Page at <http://range.sill.army.mil>. Obtain user ID and password by contacting Range Operations at DSN 639-6191 or Commercial (580)442-6191.

SECTION III CANCELLATIONS

9-16. CANCELLATION POLICY. If a scheduled range training facility is no longer required, units must cancel the facility by emailing (atzrtrr@sill.army.mil) or calling Range Scheduling. This will make the facility available to other users.

CHAPTER 10 FIXED TRAINING FACILITIES

10-1. RANGE SPONSORSHIP PROGRAM. Fort Sill operates and maintains its fixed facilities under the auspices of the Range Sponsorship Program. Subordinate commands and directorates have signed up to sponsor these facilities in an effort to keep them functional and in good repair. Paragraph 10-5 lists ranges by sponsoring unit.

10-2. RESPONSIBILITIES OF THE SPONSORING UNITS.

a. Units must sign for the sponsored facility from Real Property, Directorate of Public Works (DPW).

b. Keep ranges operational and in good repair at all times, as part of daily housekeeping, minor repairs, and police of range.

c. Sponsoring units must mow all areas of the facility that are accessible with a push or riding mower, IAW USAFACFS Reg 420-8. This includes cutting 10 feet around all buildings, obstacles, poles, bleachers, firing lines, berms, target mechanisms, latrines, range shacks, and areas that a tractor mower cannot reach.

d. Units requiring services for mechanical and automated target support will submit work requests through their unit S4 or equivalent authority to Range Support for approval and priority placement. DOL will provide materials and labor annotated on the DA Form 2407.

e. Units requiring services on range facilities will submit work requests through their unit S4 or equivalent authority to Range Support for approval and priority placement. DPW will provide materials and labor annotated on the approved DA Form 4283 (Individual Job Order or DPW Service Order).

10-3. FIXED RANGES INSPECTION. The Fort Sill Safety Office inspects fixed ranges biannually. Sponsors are notified, by correspondence, indicating the inspection dates. Sponsors are required to have the following information available:

a. A copy of the facility SOP to Range Control prior to use.

b. A copy of all work orders submitted for the facility.

c. Previous inspection documents, to include documentation of ongoing unit safety surveys of the facility.

d. Associated manuals with changes and or supplements required when operating the facility. These can include FMs, TMs, and Programs of Instruction (POIs).

e. A diagram of the facility.

10-4. RANGE OPERATION REQUIREMENTS.

a. Personnel concerned with operating a small arms range will familiarize themselves with this regulation, AR 385-63, and appropriate FMs and TMs pertaining to weapons being fired. The OIC must be command safety certified and have received a current annual small arms safety briefing from Range Control.

b. All training facilities are Fort Sill assets and are required to support the training needs of units conducting training on the installation, both active and reserve. To maintain control and resolve scheduling conflicts and safety issues, every organization requiring a range/training facility will schedule it through Range Control. This includes the organization that sponsors a particular range/facility.

c. Range Support will provide necessary range targets, target frames, spotters, patches, and markers upon request. Range Control will provide range flags, safety paddles, SOPs, and special instructions for the range requested. For targets, etc., submit a request through the Fort Sill Intranet, <http://range.sill.army.mil>, menu item Range Support Services. All units requesting equipment and supplies must have a current DA Form 1687 on file at Range Support before equipment and supplies are issued. Range Support is located in Bldg 2583. The telephone numbers for Range Support are 442-2904/3162.

d. Units must check in to all ranges and maintain communications with Range Control IAW chapter 3 of this regulation.

e. Fly the scarlet range flag, at the appropriate range, before any firing is conducted.

f. Personnel firing, instructing, or observing training on a range firing machine guns, grenades, grenade launchers, or rocket launchers range will wear an Army issued or approved helmet on the firing line. The firing line starts 10 feet behind the firing positions.

g. Personnel on firing lines will wear hearing protection when firing is in progress.

h. Using units will police range after use (includes latrines and target houses).

i. OIC is responsible for inspecting troops to ensure that individuals do not remove brass or ammunition from the range. The unit will collect and return expended brass and packing materials (clips, bandoleers, and packing boxes) to Ammunition Supply Point (ASP).

j. Running is prohibited on small arms ranges.

10-5. FACILITIES AND COURSES. This section provides information on specific ranges, facilities, and courses for individual, small arms, direct fire, and crew served weapon training.

Confidence Obstacle Course (COC)	
Description:	Located at ND 565/388; 24 obstacles in 4 groups of 6 each; Obstacles vary in degree of difficulty; Best suited for groups of 200 persons or less.
Responsibility And Conduct:	Training Command is responsible for maintenance; Each of the 6 groups of obstacles is designated by a color; Separate personnel into equal groups at each obstacle; Personnel proceed through the obstacles by ascending order (i.e., 5 to 6, 6 to 7, etc.) Prior coordination is required with 1-22, S-3 for the SOP and Keys.
Safety Precautions:	Personnel, afraid of any obstacle, are not compelled to attempt the obstacle under any circumstance; Do not negotiate obstacles at high speed; Do not hold competitions, for speed, on this course. Do not use high/ hazardous obstacles when wet or slippery. Exercise close supervision to prevent injuries. Consider weather conditions and its effects on personnel prior to conducting the course. Safety Officer/NCO will report to the S3, 1-22 FA, NLT 3 working days prior to training to receive the safety book and a safety briefing
Weapons Authorized For Live Fire:	NONE
References:	FM 21-20, FM 55-50, USAFACFS 385-10
Practice Hand Grenade Range(HGD)	
Description:	Located at ND 585/348
Responsibility And Conduct:	Maintained by Training Command. Units will follow procedures outlined in FM 23-30, Chap 3. Using unit is responsible for police of grenades from range.
Safety Precautions:	Personnel will assume a prone position when cover is unavailable. Do not attempt to recover practice grenades that fail to function until 10 minutes or more have elapsed.
Weapons Authorized for Live Fire:	NONE
References:	FM 23-30 / DA PAM 385-64
SFC John N. Reese, Jr. Training Complex (SPOTC)	
Description:	Located at ND 481/410. Range is divided into 3 lanes: (1) Movement to friendly lines; (2) Fire and Maneuver; (3) 5.56, 7.62.
Responsibility And Conduct:	Training Command is responsible for maintenance. Coordinate training IAW Basic Training. Negotiate Fire and Maneuver Lane in groups of 2, engaging pop-up targets with live ammunition. Soldiers must demonstrate proper techniques of cover, concealment, suppression, and teamwork Movement to Friendly Lines Lane is negotiated in groups of 2, reacting to snipers, chemical attacks, and obstacles. Soldiers reenter friendly lines

	by properly executing Challenge and Password Procedures. Soldiers move below live overhead fire at night, while demonstrating the individual tactics techniques of the low or high crawl.
Safety Precautions:	Lane NCOs will positively control direction, rate of movement, and weapons. OIC / NCOIC will coordinate all movement into adjacent lanes, by use of phase lines and radio communications with Lane NCOs. Lane NCOs control all loading of ammunition and are responsible for clearing all weapons, prior to personnel departing his lane. Personnel will not attempt the live fire lane, prior to successful completion of the practice lane. Maintain continuous communications between Lane NCOs and the OIC of firing. Personnel will depart the area, solely under the supervision of an Officer or NCO. One squad radio per Lane NCO and sufficient radios to continually monitor all personnel movements is required. All personnel will wear Kevlar's at all times on live fire lanes.
Weapons Authorized for Live Fire:	M16 / M60
References:	AR 385-63 / FM 21-75 / FM 23-9 / FM 23-13 / FM 23-31 / FM 23-3 / FM 23-67
SFC Tony K. Burris Complex Hand Grenade Range (HGW)	
Description:	Located at ND 589/348. This is a live hand grenade range with 6 positions.
Responsibility And Conduct:	Maintained by Training Command. Familiarize personnel with safety precautions for handling, throwing, and disposing of live grenades, before live grenade training begins. Soldiers will throw at least one fuzed practice grenade, prior to throwing casualty producing grenades, from the live bays. An officer/NCO will supervise throwing of casualty producing grenades, while an OIC/NCOIC controls all activities from an observation bay, located at the rear of the throwing bay. Each bay will have an officer/ NCO as an Assistant Instructor (AI). If a live grenade is dropped, after removing the pin, both the AI and the student in the bay will shout "GRENADE" as the AI immediately evacuates the student and then himself/herself from the bay.
Safety Precautions:	Only EOD will police duds from this range and defuse live or fuzed practice hand grenades. If the pin is removed from any live grenade, it must be thrown. NO EXCEPTIONS. Do not remove fragmentation grenades from the bottom half of the individual fiber containers until just prior to throwing. If, after opening the fiber container, it is discovered that the grenades were packed bottom up, with the safety pins either not in place or visible, contact EOD for disposal. Do not disturb or remove the grenade from its container. All personnel, within 150 meters

	of the throwing position or impact area, will wear Kevlar's. If a live grenade fails to function, all personnel must remain under cover for 10 minutes. The OIC/NCOIC will immediately contact EOD. Personnel are not allowed downrange nor will they throw any additional grenades until EOD arrives to dispose of the dud grenade.
Weapons Authorized for Live Fire:	Hand Grenades
References:	AR 385-63 / FM 23-30 / TM 9-1300-100 / TM 9-1300-214
SGT Archibald Molbone Range (MHC)	
Description:	Located at ND 451/348. Range consists of three ranges, M203, AT4, and M18
Responsibility And Conduct:	Maintained by III CA. High explosive and training ammo may be fired on this range. Use provisions from tables I, II, & IV of FM 23-31. Units may prescribe and fire a familiarization course, if adhering to all governing safety regulations. Using unit will clear all personnel, vehicles, and equipment from the range upon completion. Do not park vehicles on this range while not in use.
Safety Precautions:	Personnel within 100ft of firing positions will wear Kevlar's, flak vest and single hearing protection. Firers will confine their firing to targets located in the area to the front of the firing point. Do not fire grenades at points closer than the nearest target. EOD and Range Control are the only personnel authorized forward of the firing line at any time. Each firer will report the number of duds he/she fired to the OIC/NCOIC. Report the total number of duds to Range Control at the end of firing. If a round fails to fire, treat it as a hangfire and perform the following procedures: (1) Firer shouts "MISFIRE" while keeping the weapon aimed at the target; (2) Wait 30 seconds, open the breach, and examine the primer; (3) if the primer is not dented, the firing mechanism is at fault and the round is safe to fire from a functional weapon; (4) if the primer is dented, attempt to refire the round; if it fails a second time, shout "MISFIRE," keep the weapon pointed downrange, wait 30 seconds, remove the round, separate the round and return it to post ammunition. Additional safety precautions, as outlined in FM 23-31, apply to this range. For the AT4, fire weapons only between the right and left limits, which are marked by red and white striped poles. OIC/NCOIC will direct passage to the rear line of the firing line (backblast area). If, after following misfire procedures, the weapon fails to fire, move it to a safe place, inform Range Control, and request EOD assistance. EOD will ascertain its suitability for transportation. If deemed unsafe to transport, EOD will dispose of it in place. If deemed safe to transport, the using unit will return it to post ammunition. Only EOD and Range Personnel

	are allowed forward of the firing line. EOD must receive permission from Range Control to move forward of the firing line. Personnel on this range will wear Kevlar's at all times.
Weapons Authorized for Live Fire:	M203, AT4, M18
References:	AR 385-65/FM 23-33/FM 23-31
U.S. Weapons Complex (M203 Range) Practice Rifle Grenade Range M203/M18	
Description:	Located at ND 600/388
Responsibility And Conduct:	Maintained by Training Command. Fire only practice ammo when firing the M203.
Safety Precautions:	SEE SGT Archibald Mobone Range M203 (MHC)
Weapons Authorized for Live Fire:	M203, M18
References:	SEE SGT Archibald Mobone Range M203 (MHC)
U.S. Weapons Complex (AT4 Range) Sub-Caliber AntiTank Range AT4/SAW	
Description:	Located at ND 604/387.
Responsibility And Conduct:	Maintained by Training Command. Use only 9mm subcaliber ammo when firing the AT4. Using unit will follow the procedures as outlined in FM 23-33, appendix D, FM 23-33.
Safety Precautions:	See Live Rocket Launcher Range (MHC)
Weapons Authorized for Live Fire:	AT4 (Subcaliber), M249 (SAW)
References:	FM 23-33
PFC George H. Wanton Range Complex (TF1)	
Description:	25 meter range IA (TF1) located at ND 615/450. TF1A consists of 65 firing points.
Responsibility And Conduct:	Maintained by III CA. Range is a live fire range.
Safety Precautions:	Clear all weapons prior to any personnel moving downrange. OIC/NCOIC will ensure that all weapons are kept pointing up and downrange when not firing.
Weapons Authorized for Live Fire:	M16, M4 Carbine, 9MM.
References:	FM 23-9 / TM 9-1300-20 / DA PAM 385-64/ USAFACFS Reg 350-1, appendix G.
1LT Fredrick F. Henry Facility (ITTT)	
Description:	Located at ND 566/380. Consists of 4 training stations and 10 lanes, for grading individual tactical training techniques. Each

	lane is designed for 2 soldiers moving as a team.
Responsibility And Conduct:	Maintained by Training Command. At the orientation/demonstration area, soldiers are oriented on techniques of movement through unimproved terrain. They are then separated into equal groups and negotiate both sets of practice lanes, by employing the aforementioned movement techniques.
Safety Precautions:	Refer to ITTT SOP.
Weapons Authorized For Live Fire:	NONE
References:	FM 21-75 / ASUBJSCD 21-20
Combat Conditioning Course (CCC)	
Description:	Located at ND 568/342. Consists of 18 obstacles designed to promote physical fitness and combat skills. Designed for 220 soldiers or less.
Responsibility And Conduct:	Maintained by Training Command. Divide using unit into 4 groups or less. Each group will start 6 individuals in each lane at 30 second intervals. Remaining soldiers will start as a member of his/her group finishes. The course is large enough to accommodate 4 individuals at all stations, except at the 3 rope bridge. Prior coordination is required with 1-19, S-3 for the SOP.
Safety Precautions:	Do not compel personnel, under any circumstance, to attempt any obstacle that he/she is afraid to attempt. Do not use high or hazardous obstacles when wet or slippery. Exercise close supervision to prevent injuries. Consider weather conditions and its effects on personnel prior to conducting the course. Wear gloves to avoid rope burns on the course. Safety Officer/NCO will report to the S3, 1-19 FA, NLT 3 working days prior to training to receive the safety book and a safety briefing. Refer to the Range SOP for further guidance.
Weapons Authorized For Live Fire:	NONE
References:	FM 21-20 / ASUBJSCD 21-51 / FM 21-75 / ASUBJSCD 21-20

East Gas Chamber (EGAS)	
Description:	Located at ND 589/341. Consists of three 50 man concurrent training areas, and a 50-man overhead bleacher cover. The course is designed to accommodate 250 soldiers or less.
Responsibility And Conduct:	Maintained by Training Command. Soldiers are separated into 3 groups and rotated between the concurrent training stations, culminating in a mask confidence exercise with CS gas in the NBC Chamber. To set up an improvised generator follow these

	steps: (1) Place a burning candle in the center of the table, in the chamber, and cover it with an empty can, with holes punched in it. (2) Place some CS capsules on top of the can, causing a build up in concentration of CS. (3) Add CS capsules to the top of the can, as needed, to build or maintain the desired concentration of CS gas.
Safety Precautions:	Only MOS 54B or 54E are authorized to use the CS. Do not use CS outside of the chamber. CS capsules are the only form of CS authorized, due to oxygen restrictions of CS Grenades. Keep personnel, not participating in the chamber, upwind at a safe distance. Remove all contact lenses prior to entering the chamber. Personnel who have the following conditions are exempted from participation in the chamber exercises: (1) pregnancy; (2) open wounds; (3) heart problems; (4) severe acne.
Weapons Authorized for Live Fire:	NONE
References:	POI 21-114 / AR 350-42 / FSNBCCTS dated 24 AUG 90
PFC Milton Lee End of Course Site (EOC)	
Description:	Located at ND 583/371. Divided into 2 sections: (1) Common Skills testing area, consists of 20 stations to test 20 common tasks. (2) Field Artillery testing area, consists of 10 stations for testing 13B10 MOS tasks.
Responsibility And Conduct:	Maintained by Training Command. Personnel are separated into equal groups and assigned to a starting station. Groups will rotate until all soldiers complete their tests. The course was designed for the following: (1) Administration of common skills End of Course Test for Basic Training One Station Unit Training (OSUT) Soldiers. (2) End of Course Test for 13B10 Military Occupational Specialty. (3) Cadre Standardization test for cadre assigned to USAFATC.
Safety Precautions:	This range is a DRY FIRE range only. Issue personnel a safety briefing IAW references prior to testing.
Weapons Authorized for Live Fire:	NONE
References:	POI 21-114 / STP 21-1 / SMCT / STP 6-13B14-SM-TG

PFC Charles N. Deglopper Training Complex (ADH)	
Description:	Located at ND 598/346. This complex is a weapons demonstration area, weapons training area, and an artillery firing point. Bleacher capacity is 500 bodies.
Responsibility And Conduct:	Maintained by Training Command. Weapons explanations include the following: M203 (40mm Grenade Launcher); M16A2, M249 SAW, M67 (Fragmentation Hand Grenade);

	M119 (105mm Howitzer); and M109A6 and M198 (155mm Howitzers), Demolitions. Demonstrations are given on teamwork, suppression, fire support, cover / concealment, and weapons effects. Live fire training is given on the M60 Machine Gun and the AT4 (Subcaliber munitions only).
Safety Precautions:	The following restrictions apply to ammunition usage on this range: (1) The only 40mm ammunition allowed is practice ammunition. (2) The only AT4 ammunition allowed is 9mm subcaliber.
Weapons Authorized for Live Fire:	M203, M16, M67, SAW, 105mm Howitzer, 155mm Howitzer, AT4 subcaliber, Hand Grenade
References:	POI 21-114
Dugout 11 (DO 11)	
Description:	Located at ND 500/361.
Responsibility And Conduct:	Maintained by Training Command.
Safety Precautions:	Only 105mm ammunition may be fired in support of the Dugout Shoots (DO 11 & DO 13). Rounds may not impact closer than 100 meters in front of the dugouts.
Weapons Authorized for Live Fire:	NONE
References:	AR 385-63
Dugout 13 (DO 13)	
Description:	Located at ND 496/376.
Responsibility And Conduct:	Maintained by Training Command.
Safety Precautions:	Only 105mm ammunition may be fired in support of the Dugout Shoots (DO 11 & DO 13). Rounds may not impact closer than 100 meters in front of the dugouts.
Weapons Authorized for Live Fire:	NONE
References:	AR 385-63
MOW-WAY House (MOH)	
Description:	Located at ND 497/350.
Responsibility And Conduct:	Maintained by III CA and Range Support, DPTM. This area is a command and control site for capability exercises and VIP seating for special events. Obtain keys at the Range Support Branch, BLDG 2583.
Safety Precautions:	
Weapons Authorized for Live Fire:	

References:	AR 385-63
Automated Field Fire Range (AFF)	
Description:	Located at ND 586/361.
Responsibility And Conduct:	Maintained by Range Support, DPTM. Consists of 32 firing positions with remote targets located at distances of 75, 175, and 300 meters from the firing line.
Safety Precautions:	Prior to firing, all personnel will receive a safety briefing. OIC will control all movement downrange. Firers will keep weapons pointed up and downrange when not firing. "Semiautomatic" will be the only weapon setting allowed for firing.
Weapons Authorized for Live Fire:	M16
References:	FM 23-9 / TM 9-1300-20 / 9-1300-206
25 Meter Range III (TF3)	
Description:	Located at ND588/366.
Responsibility And Conduct:	Maintained by Training Command. Consists of 60 firing points used for zeroing live fire only.
Safety Precautions:	See Automated Field Fire Range (AFF)
Weapons Authorized for Live Fire:	M16
References:	See Automated Field Fire Range (AFF)
Medicine Bluff Pistol Range (MB1)	
Description:	Located at ND 541/378. Consists of 30 pistol firing points, 6 rifle firing points, and 1 shotgun firing point.
Responsibility And Conduct:	Maintained by Sportsman Services Branch (DPS). Supervised by a member of the Sportsman Services Branch. Open for use by military personnel and DA civilians. Designed for off duty personnel to practice marksmanship, with privately owned weapons (POWs). Adults will accompany all minors, when on-site. Obtain targets on-site, and return to the target house upon completion of firing, by the individual firer. Setup of targets is the responsibility of the firer. When multiple firers are on line, the senior individual will control all firing and movement forward of the firing line.
Safety Precautions:	The senior firer must ensure that the scarlet range streamer is flying at all times during firing. Place weapons upon the point marker, unloaded with bolts locked to the rear, prior to any person proceeding forward of the firing line. The person assigned to MB1, by the Sportsman Services Branch, will establish and maintain telephone communications with Range Control for the duration of firing.
Weapons Authorized	Privately Owned Weapons

for Live Fire:	
References:	AR 385-63 / FM 23-35 / All Applicable FMs
Medicine Bluff 2 Pistol Range (MB2)	
Description:	Located at ND 538/379. Consists of 10 firing positions with target positions at 7, 15, and 25 meters from the line.
Responsibility And Conduct:	Maintained by III CA. Establish and maintain radio communications with Range Control. Tables I through VII, for the pistol, are applicable. Use only the Standard American Type target for training and competition.
Safety Precautions:	Place weapons on pistol stands, unloaded, with bolts open, and slides back prior to any movement forward of the firing line. No personnel are allowed training at MB2A. Safety instructions as listed in FM 23-35, paras 24 and 106 are applicable.
Weapons Authorized for Live Fire:	9MM, Shotgun
References:	FM 23-35 / AR 385-63
Medicine Bluff Pistol Range 2A (MB2A)	
Description:	Qualification Range for DPS
Responsibility And Conduct:	DPS
Safety Precautions:	MB2 must be vacant. No personnel in front of firers
Weapons Authorized for Live Fire:	9MM
References:	
SGT Sylvester Antolak Driving Range (BBDR)	
Description:	Located at ND 407/337. Designed for training new and inexperienced vehicle drivers. Consists of simulated city streets with traffic signs. A 7.5 foot trench, and 30 inch wall are used for training in the M270 (MLRS).
Responsibility And Conduct:	Maintained by III CA. Using unit will establish and maintain communications with Range Control. Licensed drivers will supervise student drivers at all times. Only wheeled vehicles are authorized on the "city streets". Using units will repair any damage to signs or tires prior to clearing the range. Units must schedule with Range Control for use of this range.
Safety Precautions:	Observe posted traffic signs and speed limits while on this range. Drivers will only drive on existing roads and trails. Use ground guides when moving vehicles through the parking area.
Weapons Authorized for Live Fire:	NONE
References:	AR 385-55 / AR 600-55 / FM 21-305 / FM 31-306

1000 Inch Range (KIR)	
Description:	Located at ND 501/353. Consists of 36 firing points with stationary targets located at 500 and 1000 inches. This range is suitable for M16 familiarization and qualification.
Responsibility And Conduct:	Maintained by III CA.
Safety Precautions:	OIC/NCOIC will control all movement forward of the firing line. No personnel is allowed forward of the firing line until all weapons are cleared and safe, with dust covers facing up, bolts locked to the rear, and selector levers set to "safe" Set weapons on safety blocks to be considered "safe".
Weapons Authorized for Live Fire:	M16, M4 Carbine, SAW, 9MM
References:	FM 23-9 / FM 23-67 / AR 385-63 / AR 622-10
Kerr Hill Machine Gun Range (KHM)	
Description:	Located at ND 429/346. Consists of 4 firing points with targets located from 100 to 1000 meters from the firing line for .50 cal, SAW, and 7.62mm machine guns.
Responsibility And Conduct:	Maintained by Range Support, DPTM. Designed for Qualification. 4 firing positions.
Safety Precautions:	Direct all firing within the white and black poles, which mark the left and right safety limits of each firing position. Movement in front of the firing lines is strictly PROHIBITED. In the case of a misfire or stoppage of the .50 cal, SAW, or M240, follow these procedures: (1) Keep round locked in chamber for 5 seconds in the event of a hang fire. (2) After 5 seconds has elapsed, open the bolt and extract the round. (3) If the barrel of the weapon is hot, and the round is not or cannot be extracted within 5 seconds, close the bolt and allow the round to remain locked in the chamber for 5 minutes, due to the possibility of a cookoff (150 rounds fired in 2 minutes will heat a barrel sufficiently for a cookoff). All personnel will wear Kevlar's at all times on the range. When firing 50C, do not occupy MHC. When firing M240, use only lanes 1,2,3 and do not occupy MHC.
Weapons Authorized for Live Fire:	.50 cal, M240, SAW, M24 Sniper Rifle
References:	FM 23-65 / AR 385-63
Tower 2 Machine Gun Range (T2M)	
Description:	Located at ND 506/377. Consists of 4 firing points with targets located from 200 to 600 meters from the firing line for .50 cal and 7.62mm machine guns.
Responsibility And Conduct:	Maintained by III CA.

Safety Precautions:	Dugout 13 (DO 13) and FP 156W must be vacant. No personnel are allowed west of the firing line, there are known UXO in the area. For additional information, see Kerr Hill Machine Gun Range.
Weapons Authorized for Live Fire:	50 Cal, M240, SAW
References:	See Kerr Hill Machine Gun Range.
Jones Ridge Rifle Range (JRR)	
Description:	Located at ND 508/392. Consists of 20 targets with Target positions at 100, 200, 300, 500, and 600 meters.
Responsibility And Conduct:	Maintained by III CA. Establish and maintain radio communications with Range Control.
Safety Precautions:	Wear Kevlar's at all times on this range. OIC/NCOIC will control all movement forward of the firing line. Prior to moving forward of the firing line, clear all weapons with the bolts locked back, and place on the firing point or in racks. Personnel will not move to the rear of the firing line while firing is in progress. In the event of a target jam, the Pit OIC/NCOIC will request a checkfire from the Range OIC/NCOIC. Clear and safe all weapons prior to movement forward to correct the target jam. When using targets located at 500 and 600 meters, using unit will control traffic on Tower Two Road. Halt traffic while firing is in progress, and allow passing only upon completion of firing. Firing will not last more than 5 minutes at a time on this range. If a weapon fails to fire, and it can be recocked without opening the bolt, recock and make an additional attempt to fire. If it still fails to fire, wait 10 seconds, open the bolt, and extract the round. Prior to using the weapon again, the Range OIC/NCOIC will examine it on-site to ensure that the bore is clear.
Weapons Authorized for Live Fire:	M24 Sniper Rifle
References:	FM 23-8 / FM 23-9 / AR 385-63 / AR 622-10
Automated Record Fire Ranges (NRET/SRET)	
Description:	Located at ND 610/442(NRET), and at ND 591/372(SRET). Consists of 16 firing points with remote targets located at distances of 50, 100, 150, 200, 250, and 300 meters from the firing line. Soldiers are allowed to fire from foxhole positions and from prone unsupported positions. Qualification Range.
Responsibility And Conduct:	Maintained by Range Support, DPTM.
Safety Precautions:	OIC will report to Range Control prior to the range to receive a briefing. Issue a safety briefing to all personnel prior to allowing them to enter firing line. No firers are allowed

	downrange. OIC/NCOIC will control all other movement to and from the firing line and downrange. Keep rifles pointed up and downrange when not firing. Set rifles to "Semiautomatic" only for firing on this range.
Weapons Authorized for Live Fire:	M16, M4 Carbine
References:	FM 23-9 / TM 9-1300-20 / DA PAM 385-64
MARK 19 (MK19)	
Description:	Located vicinity ND 603/431. Qualification Range.
Responsibility And Conduct:	Maintained by III CA units. This range has 2 firing lines, each 100 meters in length. Targets range from 400M to 1500M.
Safety Precautions:	Firers and anyone on the firing line must wear flak vest, Kevlar, hearing, and eye protection. Use only inert or practice ammunition on this range.
Weapons Authorized for Live Fire:	MK 19
References:	FM 23-27
Crater Creek Demolition Area	
Description:	Located vicinity ND 373/353. Designed for emergency destruction of unserviceable or hazardous explosives.
Responsibility And Conduct:	Maintained by EOD. This area is solely for use by EOD. No other units can or may schedule use of this area.
Safety Precautions:	Demolition shots at Crater Creek Demolition Range are limited to 5lbs net explosive weight per shot, except for emergency destruction of MLRS pods, which will increase the net explosive weight to 1800lbs. Report size, time, location, and number of detonations to and approved by Range Control prior to detonation.
Weapons Authorized for Live Fire:	Demolitions
References:	
Quanah Special Effects Fields	
Description:	Bounded by the following coordinates: ND 261/359 to 261/369 to 271/369 to 271/359 to 261/359.
Responsibility And Conduct:	Coordination with Falcon Range before firing is mandatory.
Safety Precautions:	
Weapons Authorized for Live Fire:	155mm
References:	AR 385-63

**CHAPTER 11
DECLINATION LOCATIONS**

11-1. DECLINATION OF AIMING CIRCLE. To declinate an aiming circle follow the procedures and guidelines as prescribed in FM 6-2 and FM 6-50.

11-2. DECLINATION LOCATIONS.

- a. Blue Beaver Area Declination Station (Blue...ND 4124/3812)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	541 244.930	
Northing:	3838 121.753	
Elevation:	417.036	
Az Stations	Azimuth	Distance
METRO	5666.077	3187.57
MT. SHERMAN	4976.279	3051.91
GRASS 2	6203.681	2820.64
GRUBER NORTH	2941.293	2523.67
HILL 1727	0315.693	2720.66

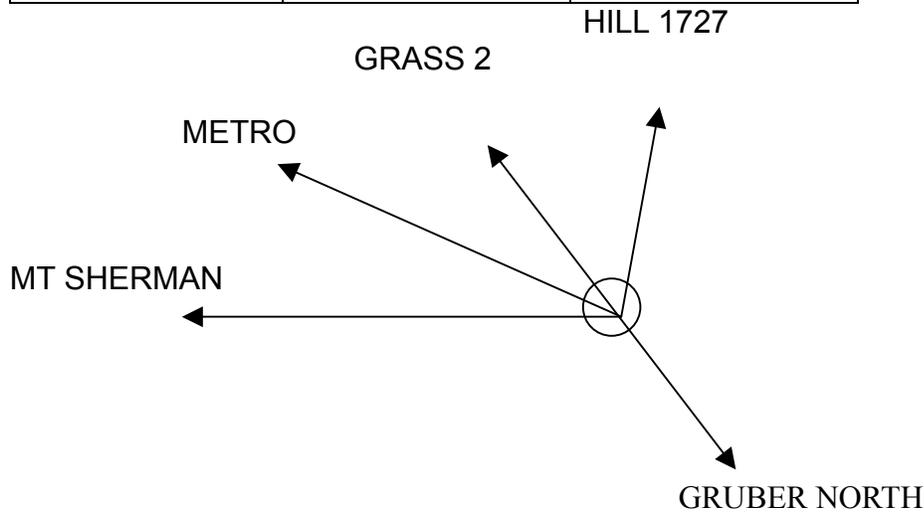


Figure 11-1. Blue Beaver Area Declination

b. East Range Declination Station (ERMA...ND 5769/4045)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	557 690.449
Northing:	3840 446.708
Elevation:	350.907

Az Stations	Azimuth	Distance
MB 2	4224.618	4494.44
DODGE	1983.570	2666.10
33E 2	4971.642	3322.25
MB 4	4379.959	5157.97

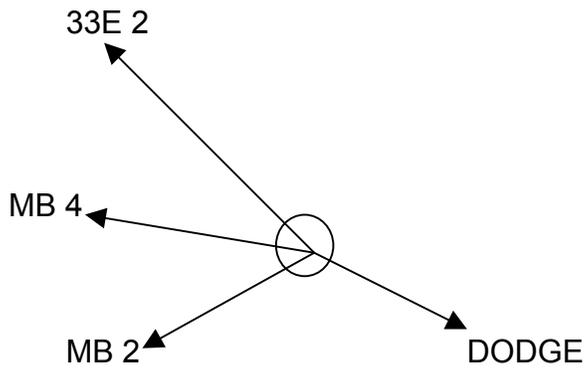


Figure 11-2. East Range Declination Station

c. Crater Creek Declination Station (QRCT AZ MARKER... ND3569/3381)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	535 685.240
Northing:	3833 807.023
Elevation:	391.034

Az Stations	Azimuth	Distance
QRCT	6033.566	1075.08
ARAPAHO	6226.092	4448.60
MT SHERMAN	0494.451	5472.46
KOEHLER	1009.766	3600.30
CACHE MUN WT	3985.243	2492.65

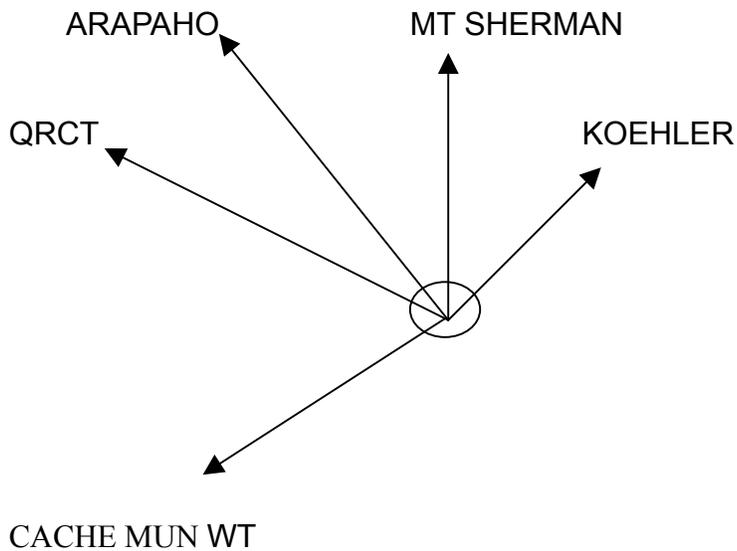


Figure 11-3. Crater Creek Declination Station

d. Quanah Range Declination Station (QUE...ND 3195/3539)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	531 949.282
Northing:	3835 394.891
Elevation:	393.819

Az Stations	Azimuth	Distance
ARAPAHO	0832.448	4086.44
QUANAH	0198.242	2434.78
QRCT	1774.713	3407.49

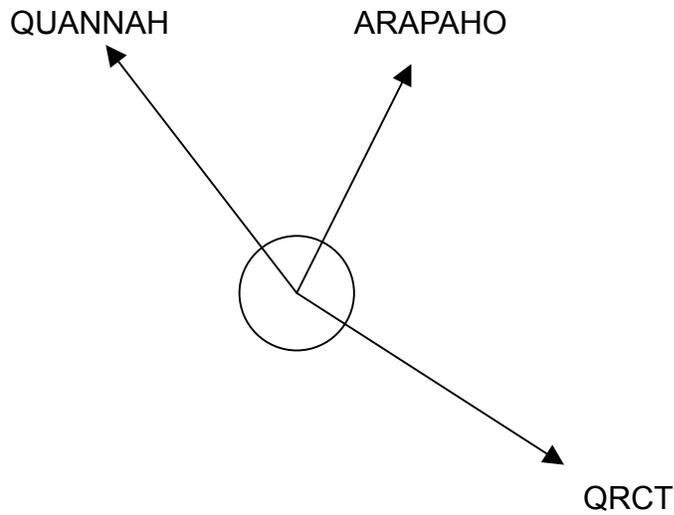


Figure 11-4. Quanah Range Declination Station

e. West Range Declination Station (YEPPEZ...ND 5064/3619)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	550 635.425
Northing:	3836 186.784
Elevation:	372.200

Az Stations	Azimuth	Distance
McKENZIE	4402.373	3702.88
SIGNAL	5019.171	4057.86
HINDS	5949.513	4127.14
SW WATER TW	2302.244	2467.77

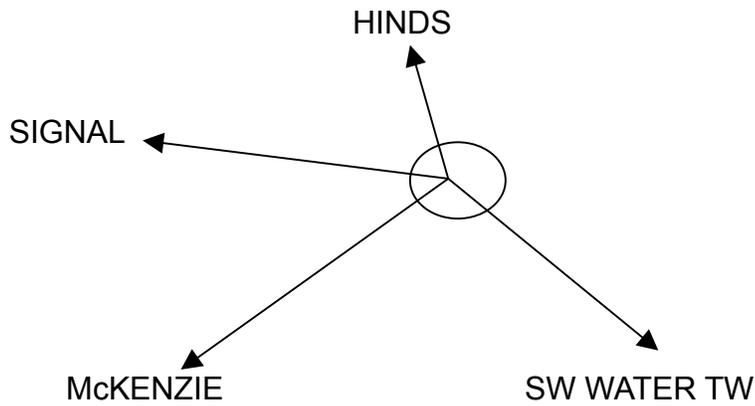


Figure 11-5. West Range Declination Station

f. Ketch Area Declination Station (ZOOM...ND 3985/4159)

DATUM: North American Datum 1983 (NAD 83) and World Geodetic System 1984 (WGS 84)

Easting:	539 853.410
Northing:	3841 590.587
Elevation:	475.500

Az Stations	Azimuth	Distance
GRASS 2	2301.301	1102.36
METRO	3796.239	1287.93
KETCH	5225.275	1975.71
ROCKY	1487.640	890.84
HILL 1727	1983.336	2388.46

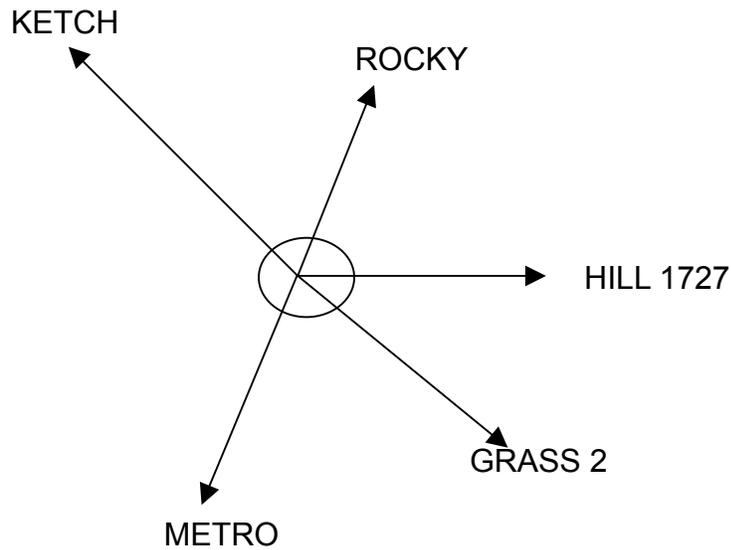


Figure 11-6. Ketch Area Declination Station

CHAPTER 12 ENVIRONMENTAL PROTECTION

12-1. GENERAL. Environmental Quality Division, DPS, is located at Building 2930, Currie Road, 442-4651/2715.

12-2. POLICY. Active Army, Reserve Component, DA civilians, civilian contractors, and all other users of Fort Sill Military Reservation are responsible for proper use, protection, and conservation of the Fort Sill Military Reservation and compliance with regulations pertaining to natural resources and the environment. These regulations are AR 200-2, AR 420-40, AR 420-74, USAFACFS Reg 200-2, USAFACFS Reg 420-8, and USAFACFS Reg 200-1.

12-3. PURPOSE. Proper use of the Fort Sill Military Reservation in accordance with published environmental regulations will ensure long term success of the training mission through quality lands on which to train.

12-4. RESTRICTIONS.

- a. Restricted Targets. Do not intentionally shell ponds, trees, or wooded areas.
- b. Trees. Cutting, pushing, damage to, or removal of trees is prohibited. Directorate of Public Safety & Law Enforcement Command, Natural Resources Branch, approves Trimming or removal of trees, for safety or training reasons.
- c. Planted Fields. Planted fields or other marked areas are off limits.
- d. Ponds. Do not set up equipment within 200 meters of any pond unless scheduled in accordance with paragraph 2.
- e. Training Area Renovations. Training areas or portions thereof posted as closed for renovation are off limits to all vehicles.
- f. Historical and Archeological Sites. Do not disturb historical and archeological sites. This includes ruins. Report all archeological and historical findings to Range Control or Environmental Quality Division, DPS. Intentional disturbance or destruction of archeological or historical sites and artifacts is punishable, under provisions of the Archeological Resources and Protection Act, as a felony. Because of the large number of important historic and prehistoric cultural resource sites, metal detecting as a recreational activity at Fort Sill is prohibited, except by permit specified under AR 405-80, Granting Use of Real Estate.
- g. Cemeteries. Cemeteries are off limits to tactical vehicles. This includes a 200m radius around the cemetery.

h. Digging. Any soil excavation in support of training such as construction of foxholes, field latrines, soakage pits, parapets, etc. requires a Categorical Exclusion (CATX). When digging, obtain the CATX and keep on site. Submit CATX through Range Control's web site under DEQ regulations. Units will specify training area and type of digging activity expected. See paragraph 9-13 for scheduling approval.

12-5. RELEASE OF HAZARDOUS MATERIALS. Report the release of any hazardous substances into the environment, immediately, to Environmental Quality Division, DPS or Range Control. Hazardous substances may include, but are not limited to, POL products, solvents, antifreeze, etc. Failure to report or cleanup spills could result in the OIC's decertification and possible fines levied by the Environmental Protection Agency.

12-6. FIRE PREVENTION. Dry weather conditions create a high fire risk on the Fort Sill Military Reservation. Fires on the reservation not only destroy the ecology, but also disrupt training and cause the loss of valuable time. To minimize the potential fire hazard, unit commanders will ensure all soldiers are aware of the following:

a. Careless discarding of matches, cigarettes, and combustible materials is prohibited.

b. Open fires are not permitted during training. Fires built by personnel engaged in recreational activities are subject to the following restrictions.

(1) No open fires allowed when the wind exceeds 10 mph.

(2) Confine fires in metal containers or in established picnic area fireplaces.

(3) Clear grass and other combustible materials within a radius of 15 feet before lighting a fire.

(4) Attend fires at all times.

(5) Extinguish fires with water, cover all coals with 6 inches of earth, and leave no ashes exposed to the wind.

c. Smoking is not permitted in Army vehicles or within 100 feet of ammunition or petroleum products.

d. Use extreme caution in the operation of pyrotechnics. Rules in chapter III, section III of this regulation applies. In addition, the Fort Sill Fire Chief will contact Range Control with the specific pyrotechnic restriction status daily, or more often if conditions change. The following are standard Fort Sill pyrotechnic restrictions:

(1) Green - all ammunition, cleared for use only if OIC is Safety Certified.

(2) Orange - partial restrictions apply, all ammunition expended must stay in the impact area (i.e. pyro/simulators, White Phosphorus, Illumination, Smoke, and blank/tracer ammunition). OIC must be safety certified.

(3) Red - no pyrotechnics use (i.e. pyro/simulators, White Phosphorus, Illumination, Smoke, and blank/tracer ammunition).

12-7. FIREFIGHTING/FIRE REPORTING.

a. Report **any and all fires, inside or outside the impact areas**, to Range Control. Range Control Frequencies (FM Voice).

b. Responsibilities.

(1) The Fort Sill Fire Department, in coordination with Range Control, will take action necessary to extinguish the fires. Natural Resources Branch, DPS, also has range firefighting responsibilities in coordination with the Fort Sill Fire Department.

(2) The senior fire department officer, present at the fire, has the responsibility for alerting (ordering into action) any or all standby or supplemental forces outlined in this regulation. When considered necessary to promptly control and extinguish fires or rescue personnel, the senior fire officer has the authority to commandeer military vehicles, equipment, materials, and personnel per AR 420-90.

c. HQ, III Corps Artillery, will furnish range firefighting details to supplement resources available to the Post Fire Marshall, as indicated below:

(1) Personnel and equipment requirements.

REQUIREMENT	STANDBY	SUPPLEMENTAL
Officer	1	0
NCO	3	1
EM	20	20
HMMV or 5/4 ton Truck (w/radio)	1	0
Backpack Radio(AN/PRC-77)	1	1
2 1/2 ton truck	2	2
Full water trailer	2	0
Gas tanker	0	1
Burlap bags per individual	2	2
5-gallon water cans	4	4
D-handle shovels	5	5
Fire Flappers	10	10
Sufficient FM radios to maintain contact with all assigned squads.		

* Driver must be qualified RTO.

(2) The OIC of the standby detail will contact the Post Fire Department prior to assuming this duty to arrange for a firefighting safety briefing for firefighting personnel.

(3) Upon activation of the standby team, the supplemental team will assume standby status.

d. Fire Department will contact the Range Control each day, in order to determine the fire status for that day. Units are informed of fire status during check-in and whenever conditions change via the range safety net.

12-8. STRAY LIVESTOCK OR WILDLIFE.

a. Unit and individual responsibilities.

(1) Personnel discovering stray livestock on the military reservation will report the location and number of animals to Range Control.

(2) Report any wildlife that has been shot or accidentally injured to Range Control.

(3) Units will check fire if continued firing could cause injury of livestock or wildlife. This includes wildlife (deer, elk) observed in impact area.

(4) Observers will not call for fire in areas where wildlife would be injured or killed.

b. Range Control responsibilities are as follows:

(1) Order check fire in appropriate areas when animals are reported in impact areas, and expeditiously drive animals from the areas, utilizing a helicopter when practical.

(2) Provide the Provost Marshal's Office the number, location, and description of livestock.

(3) Notify Sportsman Services Branch of the incident for further investigation or assistance.

c. Provost Marshal responsibilities are as follows:

(1) The Provost Marshal will take immediate steps to locate the owner of the trespassing livestock.

(2) Upon discovery of the owner, Provost Marshall will require immediate removal of the animals from the military reservation.

**APPENDIX A
REFERENCES**

A-1. ARMY REGULATIONS

AR 15-6	Procedures for Investigating Officers and Boards of Officers.
AR 200-1	Environmental Protection and Enhancement.
AR 200-2	Environmental Effects of Army Actions.
AR 360-1	The Army Public Affairs Program
AR 385-63	Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat.
AR 405-80	Management of Title and Granting Use of Real Property.
AR 420-40	Historic Preservation.
AR 420-74	Natural Resources Land, Forest, and Wildlife Management.
AR 420-90	Fire and Emergency Services.
AR 600-55	The Army Driver and Operator Standardization Program (Selection, Training, Testing and Licensing).

A-2. FIELD MANUALS.

FM 3-09.70	Tactics, Techniques, and Procedures for M109A6 Howitzer (Paladin) Operations.
FM 5-250	Explosives and Demolitions.
FM 6-40	Tactics, Techniques, and Procedures For Field Artillery Manual Cannon Gunnery.
FM 6-50	Tactics, Techniques, and Procedures for the Field Artillery Cannon Battery.
FM 6-60	Tactics, Techniques, and Procedures for MLRS Operations.
FM 23-11	90mm Recoilless Rifle, M67.

A-3. SPECIAL TEXTS.

ST 6-60-40	MLRS Platoon Leader's Handbook.
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A-4. TRAINING CIRCULARS/TRAINING MANUALS.

DA PAM 385-64	Ammunition and Explosives Safety Standards.
TM 9-1425-646-10-1	MLRS Operator's Manual (vol. 1).
TM 9-1425-646-10-2	MLRS Operator's Manual (vol. 2).
TM 9-2350-314-10	Paladin Operator's Manual.
TM 43-0001-28	Army Ammunition Data Sheets for Artillery Ammunition: Guns, Howitzers, Mortars, Recoilless Rifles, Grenade Launchers and Artillery Fuzes.
TB 11-1025-306-10-1	MLRS Fire Direction Software Operator's Manual (vol. 1).
TB 11-1025-306-10-2	MLRS Fire Direction Software Operator's Manual (vol. 2).

A-5. MILITARY HANDBOOKS.

MIL-HNDBK-828A	Laser Range Safety.
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A-6. LOCAL PUBLICATIONS.

USAFACFS Reg 40-557-1	Hearing Conservation Program.
USAFACFS Reg 115-11	Survey Control Within The Fort Sill Military Reservation.
USAFACFS Reg 200-1	Recreational Use, Management, Harvest, and Protection of Natural Resources.
USAFACFS Reg 200-2	Environmental Protection and Enhancement.
USAFACFS Reg 385-10	Safety Regulation.
USAFACFS Reg 420-8	Grounds Maintenance and Range Conservation.
USAFACFS Reg 420-90	Post Fire Regulation.
USAFACFS Reg 725-1	Supply Procedures.
USAFACFS Memo 95-1	Aviation, Army Aviation General Provisions and Flight/Regulations.
USAFACFS Suppl 1 to AR 190-5	Motor Vehicle Traffic Supervision.

A-7. OTHER DIRECTIVES.

Supervision SIC, Range Control, DPTM Edition 5, Fort Sill, Trig List of Horizontal Control
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A-7. FORMS.

FS Form 91	Troop Support Class Scheduling Sheet
FS Form 650	Fort Sill Range Violations

**GLOSSARY
(ACRONYMS)**

ASP Ammunition Supply Point.	LTA Local Training Area.
BOC Battery Operations Center.	LRSO Laser Range Safety Officer.
CALFEX Combined Arms Live Fire Exercise.	OIC Officer-In-Charge.
COB Center of Battery.	PC Pilot-In-Charge.
COS Chief of Section.	POC Platoon Operations Center.
CS Chemical Smoke	POV Privately-Owned Vehicle.
DPTM Directorate of Plans, Training and Mobilization.	RCA Riot Control Agent
DPW Directorate of Public Works.	RDP Range Deflection Protractor.
EOD Explosive Ordnance Disposal.	RSO Range Safety Officer.
FAC Forward Air Controller.	RTO Radio Telephone Operator.
FDC Fire Direction Center.	SDA Surface Danger Area.
FP Firing Point.	STR Standard Troop Requirements.
FSCM Fire Support Coordination Measure.	STROIC Standard Troop Requirements Officer-In-Charge.
FSMR Fort Sill Military Reservation.	TA Training Area.
HPAAF Henry Post Army Airfield.	TC Track Commander...also Training Circular.
HPT Henry Post Tower.	TGPC Terrain Gun Positioning Constant.
IAW In Accordance With.	USAOTC United States Army Operational Test Command.
IFR Instrument Flight Rules.	USAFACFS United States Army Field Artillery Center and Fort Sill.
IOIC Instructor-Officer-In-Charge.	USAFAS United States Army Field Artillery School.
ISM	UAV

Installation Safety Manager.	Unmanned Aerial Vehicle.
LSO Laser Safety Officer.	UXO Unexploded Ordnance.
	VFR Visual Flight Rules.

**GLOSSARY
(DEFINITIONS)**

Convoy. Six or more vehicles temporarily organized to operate as a column.

Dud. An explosive item or component of a weapon system that fails to function as intended when fired.

Impact Areas. Areas where munitions impact. They are extremely dangerous and marked with signs. Entry into impact areas is prohibited unless authorized by Range Control.

Instructor-Officer-In-Charge. The designated commissioned or noncommissioned officer assigned to USAFAS who is the instructor with responsibility for the general conduct of the exercise. The IOIC will not have responsibilities associated with firing safety unless he/she is simultaneously performing functions in the firing unit chain of command (e.g., fire direction officer during FDC training, range safety officer, chief of section).

Officer-In-Charge. Each commander/department director conducting or supporting an exercise on the Fort Sill Military Reservation will designate a commissioned, warrant, or noncommissioned (SFC or above) officer as the OIC. SSGs may act as OIC on small arms ranges and firing positions where subcaliber training devices are used. The OIC has overall responsibility and depending on the size and scope of the exercise, may assume duties as range safety officer.

Public Highways. A highway that the public has unlimited access (e.g., State Highway 115 or U.S. 277).

Public Traffic Route. A highway, street, or road that is controlled by the Federal Government and the public has limited access.

Range Officer. An individual who serves as the central point of control and coordination for all activities conducted within the installation training complex and implements and enforces the installation range safety program.

Range Safety Officer. The designated commissioned, warrant, or noncommissioned (SFC or above) officer in charge of activities, at a particular firing position and responsible for all firing safety. An RSO is required for each position requiring a separate safety card.

Risk Assessment. An expression of potential loss in terms of hazard severity, accident probability, and exposure to hazard.

Risk Management. The process of weighing training realism and the expected benefits of an exercise or operation against the known risks.

Round Out Of Impact. A round, which impacts outside the impact area, outside the unit's prescribed safety limits, or within a No Fire Area.

Surface Danger Areas. Areas that extend from the firing point out to and including the impact area. Access to Fort Sill range surface danger areas are carefully controlled and scheduled to provide for maximum training use and to minimize unsafe conditions.

Standard Troop Requirement Officer-In-Charge. The designated commissioned or warrant officer, or an NCO, in the rank of SFC or above, assigned to the unit that has been specified as the primary support unit for a given USAFAS exercise. He/she is responsible for actions of personnel for the support unit, to include those associated with firing safety. The STROIC is responsible for all actions taken by the supporting unit, in response to the directions of IOIC. Supporting units will follow all applicable safety regulations and policies.

(ATZR-TR)

FOR THE COMMANDER:



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