

DEPARTMENT OF THE ARMY
FORT CAMPBELL INSTALLATION
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Safety

Sustainable Range Program, Safety, and Integrated Training Area Management

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Chapter 1

General

1-1. Purpose

This regulation provides guidance for maximum realistic combat readiness training through the proper utilization of available terrain and training facilities on the Fort Campbell military reservation. These guidelines are consistent with Department of the Army (DA), Installation Management Command (IMCOM), and Forces Command (FORSCOM) safety goals of providing tough, realistic training while preventing injury to personnel or damage to property. This regulation also addresses the Integrated Training Area Management Program (ITAM).

1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1-3. Explanation of Abbreviations and Terms

Abbreviations and terms used in this regulation are explained in the glossary.

1-4. Responsibilities

- a. The Senior Commander will review/sign request for Range deviations annually.
- b. Brigade Commanders will monitor their subordinate unit range safety certification programs through the Command Inspection Program (CIP), and review and/or sign applicable risk assessments.
- c. Battalion Commanders will establish a formal range safety certification program IAW the Live Fire Exercise Certification Workbook, Policy Letter #25, DA PAM 385-63 and Chapter 3 of this regulation, conduct internal investigations of incidents occurring on Ft. Campbell ranges and facilities, and review and/or sign applicable risk assessments.

- d. Installation Safety Office (ISO) will review Request for Exceptions to Policy and deviations, request for range clearance operations, assist with inspecting field Ammunition Supply Point (ASP), and provide incident investigation support.
- e. Installation Sustainable Range Program Manager will be responsible for the Integrated Training Area Management Program, review request for exception to policy, deviations, and for range clearance operations.
- f. Quality Assurance Specialist Ammunition Surveillance (QASAS) will provide accident investigation support for malfunctioning ammunition, provide Ammunition Information Notices (AIN) to Range Branch and Units, inspect field ASPs for units training on ranges, FPs, OPs, and provide a briefing to OICs and RSOs.
- g. Logistics Assistance Office (LAO) will provide incident investigation support for malfunctioning weapons and provide information notices on weapons problems.

1-5. Mission of Range Branch

The mission of Range Branch, DPTMS is to facilitate training by providing a safe environment, fully operational training facilities, and a proactive staff ready to assist unit commanders in getting this training accomplished. To accomplish this goal, Range Branch will-

- a. Establish and enforce range regulations.
- b. Schedule, coordinate, and monitor the use of Fort Campbell training complex.
- c. Coordinate all maintenance and construction requirements involving range and training facilities.
- d. Impose precautions for the protection of life, property, and wildlife, before, during, and after all range operations.
- e. Program, stock, and issue range support equipment.
- f. Maintain statistical data and submit reports pertaining to training area (TA) and range utilization.
- g. Develop a long-range master plan designed to improve and modernize training facilities.
- h. Sustain the training areas for repetitive use by the training units.
- i. Maintain a Range Branch Fire Desk 24 hours a day, 7 days a week.

1-6. Uniform

- a. Battalion level commanders determine the uniform to conduct safe training. All live fire training will include as a minimum, hearing and eye protection.
- b. The following types of training require Advanced Combat Helmet (ACH), Individual Body Armor (IBA) with plates, eye protection, medically fitted earplugs or noise muffs, and gloves:
 - (1) All live fire training utilizing the live fire shoot houses.
 - (2) All live fire training when attacking and clearing trench systems and bunkers.
 - (3) All live fire training when hand grenades are employed.
 - (4) All live fire training of M203/320 and MK 19/47 HE or HEDP.
 - (5) All live fire training conducting convoy operations.
 - (6) Remote designation for Hellfire Missiles.
 - (7) All maneuver live fire exercises.
- c. Commanders will reference DA PAM 385-63 for personal protective equipment (PPE) measures.

1-7. Applicability

This regulation applies to all personnel conducting training at Fort Campbell, Kentucky. The regulation states the procedures to be followed by all active and reserve component units operating within the reservation. It will be used to supplement all pertinent Army regulations and applicable manuals. It does not restate, redefine, or overrule publications by higher headquarters.

1-8. Requesting Deviations and/or Exception to Policies

- a. Units requesting deviations and exceptions to policy will process request IAW DA PAM 385-63 and provide Range Branch Safety a request for range deviation/exception to policy and a FC Form 6 with risk assessment, scenario, and SDZ/WDZ diagram's not later than 30 days prior to training date.
- b. All requests for range deviations/exceptions to policy will be signed by the battalion and brigade commander prior to being submitted to Range Branch. The coordination routing for range deviations/exceptions to policy will be through the battalion commander, brigade commander, Range Branch, Installation Safety, G3 Training, G3, SGS, Chief of Staff, Deputy Commanding General (Operations) (DCG (O)) and CG. Some deviations may require coordination with Public Affairs Office (PAO) and/or Staff Judge Advocate (SJA).

Chapter 2 Scheduling Policies and Procedures

2-1. Purpose

This Chapter provides guidance on scheduling policies and procedures for all units training within the Fort Campbell Training Complex. Contact Range Scheduling with any additional questions (270)798-4409.

2-2. Scheduling Training Facilities

- a. Range Branch is solely responsible for scheduling training facilities west of Market Garden Road including ranges part of the Brigade Combat Teams (BCT) Multipurpose Qualification Training Ranges (MQTR).
- b. Initial Resource Allocation Conference (IRAC). This meeting is conducted by the Training Division, DPTMS 14 weeks prior to the start of a quarter and will cover resource allocations for that quarter. Brigades and tenant unit representatives will attend. Unit representatives will bring training plans reflecting their training requirements. Resources will be allocated to units based on training plan requirements and individual and collective training priority. Resources not allocated during the IRAC become available for use by request for any organization. (This does not include MQTRs.) Two weeks prior to the IRAC, BCTs will submit Multipurpose Qualification Training Range (MQTR) schedules to Range Branch in order to provide visibility to resource managers.
- c. Resource Allocation Conference (RAC). The RAC is conducted no later than 7 weeks prior to the beginning of the training quarter. The requirement for attendees is the same as for the IRAC. The outcome is resolution of resource conflicts to allow unit's to lock-in training resources for that quarter. Any units wanting to lock in weekend or DONSA training must have a Weekend/DONSA training request packet present and ready to turn into G3 Training at the RAC. Any unit that does not have their Weekend/DONSA request packets ready at the time of the RAC will not be permitted to schedule such training at that time. At the conclusion of the conference, Range Operations will finalize the allocation of resources. Once the resource allocation packet is approved by the G3 it becomes the sourcing document. Units will submit all requests into RFMSS to ensure the proper scheduling of all the training resources approved by G3. After of the G3's approval of the resource allocation packet the following ten working days will be used as a quality assurance and checks (QA/QC) to input and confirm those resources. Units will have the first five working days to input all allocations into RFMSS for Range Scheduling for approval. Unit resource managers will use the next five working days to check with Range Scheduling, ensuring RFMSS reflects all allocated training areas and ranges agreed upon in the RAC for their respective unit. Unite resource managers will only confirm resources allocated at the RAC during this second 5 day period (any additional resources requested for that quarter during this period will be denied). Failure to confirm your resources within the 10 working day QA/QC will result in loss of those resources by that unit, making them available to other units. Requests for resources not allocated will be accepted, on a first come basis, after the 10 day period.
- d. The following information is required on all facility requests. (As applicable)
 - (1) Facility being requested.
 - (2) Date(s) of training.
 - (3) Times of training.
 - (4) Type of equipment being used (Weapons, Vehicles, A/C, etc). For all live fire training, weapons must be identified.
 - (5) Type of ammunition being used by type and Department of Defense Identification Code (DODIC).
 - (6) Type of event, describe the event to the best of your ability. When using RFMSS pick the event that most closely matches the training you are conducting.
 - (7) The increasing number of units training on the installation will often require units to share a training facility. Units desiring to use training facilities currently scheduled by another unit must coordinate with the owning unit's S3 prior to submitting FC Form 254 to Range Branch. Owing units should consider any negative impact on their own training prior to authorizing Joint Utilization/Co-Use of a facility. Specific limitations must be placed on the unit requesting the Joint Utilization/Co-Use (Time or Grid Coordinate limitations) or the unit granting the Joint Utilization will be canceled from the facility The FC Form 254 will contain both the signature of the owning unit's S3 representative and the date of approval. Joint Utilization/Co-Use cannot be rescinded.
 - (8) Brigade S3s will indicate on a memorandum the individuals authorized to schedule, cancel, or co-use training facilities. This memorandum will be kept on file at Range Scheduling.
 - (9) Cancellations will be submitted as soon as possible, but not later than 48 hours prior to training date.
 - (10) Range Scheduling is responsible for releasing to Fort Campbell Outdoor Recreation Division (ORD) 10 training areas on weekends, holidays and DONSA's. All other TAs not scheduled or conflicted by training will be released to the ORD. Range Scheduling will provide ORD a forecast of areas available for recreational use for the

next week by 1200 hours on Wednesday. Range Branch reserves the right to rescind the release of TAs for military training requirements.

e. USASOC Priority Training Facilities: Priority use of the follow facilities will go to the tenant USASOC units below.

- (1) 5th SFG
 - (a) Range 12
 - (b) Range 35A
 - (c) Range 51A Flat Range
 - (d) Range 51B Breaching Facility
 - (e) Range 51C Shoot House
 - (f) Range 51D Unknown Distance /Tower
 - (g) Range 51E Known Distance
 - (h) Range 51F Urban Assault Course
 - (i) Range 70 Indoor range
 - (j) Fixed RVTT Site, BLDG 3219
- (2) 160th Special Operations Aviation Regiment:
 - (a) Range 2A
 - (b) Range 29

(3) Tenant USASOC units are the primary users of their assigned facilities. Commanders will manage their resources to ensure appropriate usage of the facilities and that any non-usage time is allocated to other units requiring the resources. Commanders will ensure their units submit a schedule for all facilities to Range Scheduling NLT 2 weeks prior to each IRAC. Units will use the Range Land Allocation Matrix format for submitting their range schedules to Range Scheduling. Once the RAC process is complete, tenant units will schedule their assigned ranges in RFMSS.

f. 160th SOAR Standard Helicopter Operations on Range 66 concrete cinderblock buildings, Aardvark LZ, and Range 45 concrete cinderblock buildings for all military and civilian pilots, active or reserve, assigned, attached on temporary duty with the 160th SOAR (A). Coordination will be done IAW 160th SOAR(A)/ Fort Campbell Urban Operations Training Areas SOP.

Chapter 3 Range Safety

3-1. General.

a. Persons in charge of or using ranges, maneuver areas, and training facilities are responsible for the compliance with the safety requirements of this regulation, AR 385-63, DA PAM 385-63, and the applicable TMs and FMs for the training to be conducted. Applicable publications can be found at <http://www.army.mil/usapa/doctrine/>, <https://portal.campbell.army.mil/garrison/dptms/Training/Range/Shared%20Documents/Forms/AllItems.aspx>, also on <https://portal.campbell.army.mil/garrison/dptms/Training/Range/default.aspx>

b. Any incident or accident that occurs at any training facility, training area, or range will be processed IAW AR 385-40 and Campbell Regulation 385-2. Range Branch will investigate, report, and analyze all accidents and incidents for the primary purpose of accident prevention. Incident reports will be forwarded to the DPTMS, Division G3 and Installation Safety Office. OICs/RSOs that have been decertified due to a negligent range incident will not be re-certified for 180 days. This time period allows the Battalion Commander to conduct re-certification training.

c. Report all accidents and incidents to the Fire Desk immediately, but not later than 30 minutes after the incident occurs. For Firing Incidents refer to para 3-4.

d. Weekly Range Orientation briefings are conducted Wednesdays at 1300 hours and every Friday at 1030 hours (except for holidays & Division Days of No Scheduled Activities (DONSA)). When a DONSA falls on Friday, a Range Orientation Briefing will be conducted on the last workday of the week at 1030 hours in Building # R016B at Range 16. This Range Orientation Briefing is conducted by Range Branch Safety and the Quality Assurance Specialist Ammunition Surveillance (QASAS) providing valuable safety information for unit OICs and RSOs. To confirm the time and location for the brief call 956-4484/3308. This Range Orientation Briefing will be integrated into all unit commanders Range Safety Certification Programs. All OIC's and RSO's must attend this briefing as part of their Unit certification. Range Branch also gives briefings to S3's, Unit Commanders, and 1SG's.

e. A recommended Range Safety Checklist is located on the Fort Campbell Portal and Range Branch AKO page (<https://www.us.army.mil/suite/files/38939492>) to assist commanders, OICs, and RSOs. The checklist does not and

cannot cover all requirements provided for all conditions and situations. Commanders, OICs, and RSOs are responsible for requirements addressed in references provided in paragraph 3-1a.

3-2. Commanders of Units Conducting Training

- a. Commanders are responsible for the safe operations of all ranges used by their unit.
- b. Commanders of units firing ammunition, detonating explosive devices, or otherwise training in a designated training area/facility will comply with DA PAM 385-63, Chapter one, and will designate an Officer In Charge (OICs) and Range Safety Officers (RSOs) with additional assistant Safety Officers (SO)s as necessary IAW DA PAM 385-63. OICs and RSOs will be designated by rank IAW Table 3-1 below. OICs and RSOs will not be assigned any other duties.
- c. Each battalion commander and separate company commander will establish a formal range certification program IAW DA PAM 385-63, Chapter one, to ensure that their Range OICs and RSOs are fully competent to perform their duties. The certification program will consist of both classroom and hands-on training. All S3s, OICs and RSOs are required to attend a range orientation briefing once every two years. Each unit certification will include as a minimum, instruction in the following areas:
 - (1) Range Safety.
 - (2) Range procedures and personnel responsibilities.
 - (3) Weapons characteristics and usage.
 - (4) Publications AR 385-63, DA PAM 385-63, CAM Regulation 385-5, and applicable FMs and TMs.
 - (5) CAM Regulation 700-2 and ammunition accountability and handling procedures.
 - (6) Commanding General Training Guidance and CG Policy Letter 25.
 - (7) Communication, to include communication with medical personnel.
 - (8) Composite Risk management (FM 5-19).
 - (9) Wildlife
- d. Battalion and separate company commanders will provide Range Safety a current roster of personnel certified to perform the duty of OIC or RSO, signed by commanders or acting commanders on valid assumption of command orders, stating the noted individuals are familiar with the above regulations and have been tested and certified. The memorandum will include the date the certification expires. Certification is valid for two years or when validating official (memo signature authority) has changed. The Certification memorandum will be signed by the commander. Commanders will select persons for OIC and RSO not only based on rank requirements, but more on weapon system qualifications, responsibility, and experience.
- e. Prior to conducting any training, commanders must conduct a risk assessment and complete FC Form 4162 or DA Form 7566 (Composite Risk Management Worksheet). Ensure that the composite risk management worksheet prepared addresses all known hazards listed by task.

Weapon system	<u>OIC (1)</u>		<u>RSO (1)</u>	
	OFF NCO	WO	OFF NCO	WO
Practice hand grenades; sub-caliber training devices; laser devices; firing devices; simulators & trip flares; static non-maneuver live fire ranges .50 cal and below for zero, qualification and familiarization, ,	X E6	X	X E5	X
Chemical agents and smokes	X E6	X	X E5 (2)	X
Aerial gunnery & air defense weapons; flamethrowers; live grenades, grenade launchers, and grenade machineguns; live mines & demolitions; tank & fighting vehicle cannons; recoilless rifles, reflexive fire ranges.	X E7	X	X E6	X
Field artillery	X E7	X	X E6	X

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Mortars	X E7	X	X E6	X
ADA rockets and guided missiles	X		X (3)	
Direct fire antitank rockets and missiles	X E7	X	X E6	X
Live-fire maneuver exercises and shoot houses using organic weapons, squad through company, battery, troop	X E7	X	X E6	X
Combined arms live-fire exercises using outside fire support, troop, battery, squad, platoon, company; or battalion and larger	X E7	X	X E6 (4)	X
Unmanned Aerial Systems	X E5	X	X E5	X
Lasers	X E7	X	X E5	X

Table 3-1. OIC/RSO Appointment Requirements

Notes:

(1) Civilians in the grade of GS-07 or above may act as OIC, and GS-05 or above or equivalent as RSO. Civilian contractors may act as RSO in accordance with AR 385-63.

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

(3) SRSO will be a field grade officer, CW03 or higher(Army), or civilian in the grade of GS-11 or above.

(4) OIC will be a field grade officer for battalion or larger CALFEX.

3-3. Medical Evacuation

Units training at Fort Campbell will identify a means of medical evacuation for training location(s). Planning factors should include anticipated response time for air evacuation and ground evacuation to reach Blanchfield Army Community Hospital (BACH). Ambulance exchange points along the ground evacuation route should be identified to allow for transfer of patient care to a BACH ambulance, enabling more advanced treatment en route to the Medical Treatment Facility (MTF). Units WILL rehearse ground evacuation routes and coordinate ambulance exchange points with local Emergency Medical Services prior to training. Air evacuation is conducted by civilian air ambulance without the aid of night vision devices. Units will have on hand the necessary equipment for white light illumination of a suitable air ambulance landing zone.

a. The Senior Leader on site will consult with medical personnel on site and determine the method of evacuation and the need to conduct ambulance exchange as warranted.

b. In the event of illness or injury to personnel requiring MEDEVAC, units will contact the Firing Desk as follows:

(1) Telephone. Dial the Fire Desk, 798-3001/4122; or dial 911 and request assistance from the emergency services center for an ambulance.

(2) FM Radio. Call the Fire Desk on 71.250 primary or 49.900 alternate.

c. Be prepared to provide the following information (* indicates essential information):

(1) *Location of pickup site (8 digit grid coordinate).

(2) Radio frequency, call sign and suffix, if necessary.

(3) *Number of patients by precedence.

(4) *Special equipment required.

(5) *Number of patients by type.

(6) Security of pickup zone, if necessary.

(7) *Method of marking pick-up zone.

(8) Patient nationality and status, if necessary.

(9) Description of terrain around Helicopter Landing Zone (HLZ) if necessary.

d. Personnel reporting emergencies will not break communications with the Fire Desk until released by Range Safety.

3-4. Incident Reporting

If a unit fires outside of the designated SDZ/WDZ, negligent discharge, rounds are not observed, rounds are fired above the red line in a Shoot House, injury of personnel, or any other breaches of safety, the following procedures will be followed:

a. Execute a check fire freeze and everyone involved will move to the rear of their weapon, leave all settings on their weapon as they were last fired. A report of the incident will be made to the Fire Desk immediately and the check fire freeze will remain in effect until lifted by Range Safety.

b. The Range OIC will make an immediate check of the point of impact, if out of Established Impact Area, to ensure that no injuries or loss of life or property resulted from the incident. The results of this check will be reported to the Fire Desk immediately. Shell craters will not be disturbed until a representative from Range Safety has completed a crater analysis. At no time will unit personnel enter the established impact areas.

c. Any individual who observed the round will submit an Observer Report. Only one report is required from each site observing the round. The Observer Report should cover the following items:

- (1) Date and time the incident occurred/or was observed.
- (2) Injury to personnel, if any.
- (3) Equipment damaged, if any.
- (4) Number of rounds.
- (5) Location of round.
- (6) Air burst (estimated height in meters)
- (7) Ground burst (Is crater observable from outside of Impact Area?)
- (8) Location of observer.
- (9) Type of Weapon/Ammunition involved.
- (10) Name and unit of person reporting.

d. After reporting the incident, the firing unit OIC or RSO will complete a Check Fire Freeze Report and immediately forward the information over one of the nets or hand the report to the Range Operations on-site representative. The Check Fire Freeze Report should cover the following items:

- (1) Firing point/unit.
- (2) Weapon Type/Ammunition involved.
- (3) Time last round fired.
- (4) Initial grid to target.
- (5) Total subsequent corrections/observer target direction.
- (6) Last shell-fuse combination fired.
- (7) Azimuth of lay.
- (8) Last deflection fired.
- (9) Last range fired.
- (10) Last quadrant fired.
- (11) Last powder charge fired.
- (12) Piece number last fired.
- (13) Name of person verifying data.
- (14) Any known nonstandard or improper procedure which could have caused an erratic round.

***NOTE: Do not allow anyone to go near the crater.** The following personnel have the authority to perform crater analysis: Range Safety personnel, Battalion S3, Battalion XO, or the Battalion Commander.

3-5. Range Fires

a. Units will report all fires in the Training Complex or Impact Areas immediately to the Fire Desk. When reporting a fire, provide the following information:

- (1) Location and type.
- (2) Name and telephone number of person reporting.
- (3) How fire started.
- (4) Unit or person starting fire.
- (5) Direction fire is spreading.

b. Fire prevention guidelines are located in [Table 3-2](#).

c. Commanders of units using ranges or training areas will fight fires observed in their areas within their capabilities. No one will enter impact areas for the purpose of fighting fires without the approval of the Range Program Manager.

d. The Fire Desk will notify the Installation Operations Center (IOC), Forestry, and MWR of the fire. Forestry and/or the Range Program Manager will decide whether to activate the fire department. When the fire department is activated, the Fire Marshal will assume responsibility for the firefighting effort. The OIC of the range or Training Area will render all possible assistance.

e. The Fire Desk will notify Installation Safety of equipment fires listed below IAW AR 385-40:

- (1) Wheeled vehicles.
- (2) Tracked vehicles.
- (3) Aircraft (ground).
- (4) Ammunition/explosives fires.
- (5) Missiles to include subsystems.
- (6) Tents.
- (7) Space heaters.
- (8) Generators.

f. Unit reporting a fire will maintain communication with the Fire Desk.

Classification	Condition	Restrictions				Deviation Approval Authority
		South and North Impact Areas	Small Arms Impact Area Ranges	Training Areas and Urban Operations sites	Shoothouses, Demo Areas (Includes 39, 44G, 51B)	
Class I	Burn index 0-4	None	None	None	None	N/A
Class II	Burn index 5-9	None	None	None	None	N/A
Class III	Burn index 10-19	None	None	None	None	N/A
Class IV	Burn index 20-39 Winds less than 10 knots	HE only for indirect fire systems. Ball only except on RG 28, 29, 31, 41, 42C (CLF), 46, 50, 55. OP13. Blanks authorized	Ball only except ranges 10, 11, 26, 36A	Extreme caution when using blank ammunition and pyrotechnics	None	Installation Range Officer or Range Operations Officer
Class V	Burn index 20-39 Winds greater than 10 knots	HE or ball only. Powder charges or increments may only be burned on a hard surface. Ball only except on RG 28, 29, 31, 41, 46, 50, 55. No 20mm or 40mm HE or M918 TP. Blanks Authorized	Ball only except ranges 10, 11, 26 and 36A. No 40mm HE.	No open fires No pyrotechnics No blank ammunition in Training Areas. (Blanks are authorized in Urban Operations Sites)	None	DPTMS or designated Representative

Class VI	Burn index 40-100 Winds less than 20 knots	HE (Indirect fire and Avn Gun) or ball (direct fire) only. Blanks Authorized	No tracers, No 40mm HE or M918 TP	Same as class V	No firing on Demo Areas. No restrictions in Shoothouses	Garrison Commander
Class VII	Burn index 40-100 Winds greater than 20 knots	No firing	No firing	Same as class V	No firing	Senior Commander

AERIAL GUNNERY: All targets will be a minimum of 1 km inside the impact area when firing missiles during class VI days.

Table 3-2. Fire Prevention Guidelines

3-6. Lost Soldier or Other Lost Persons

Units will --

- a. Report lost soldiers or other lost persons immediately to the Fire Desk and include the following information:
 - (1) Name, rank, unit, and last four of social security number of the lost soldier or person if known.
 - (2) Date, time, and location the soldier or person was last seen.
 - (3) Type of training being conducted at the time the soldier disappeared.
 - (4) Description of the soldier or lost person
 - (5) Any known medical condition.
- b. Conduct a search of the surrounding area, do not enter Impact Areas.
- c. The Fire Desk will contact the Military Police (MP).
- d. Request assistance from the Fire Desk as necessary.
- e. Maintain communication with the Fire Desk.

3-7. Foot March Safety

Dismounted Foot Marches.

- a. Units in a tactical formation west of Ashau Valley Road will use the extreme right and left shoulders of the road. Units/personnel will not use Angels Road, Mabry Road, or Market Garden Road for foot marches. Units will use the foot march route adjacent to Angels, Mabry, and Market Garden Roads.
- b. Formations will march "WITH TRAFFIC". On roads where the speed limit exceeds 35 MPH, units will use lead and trail vehicles with flashing lights and signs stating, "CAUTION TROOPS AHEAD".
- c. All marchers will wear a reflective belt or vest where it is visible from the front and rear and not covered by any article of clothing or equipment. All formations will have the four corners of the formation marked by wearing reflective vests, (not reflective belts), and using front and rear road guards wearing reflective vests, (not reflective belts). Flashlights must be used by road guards and other personnel designated by the leaders during periods of limited visibility.
- d. Leaders will do a comprehensive risk assessment. The hazards and control measures will be included in the briefing of the guidelines prior to the road march and ensure compliance is followed throughout the duration of the event.
- e. Individuals marching and walking will use off-road areas such as sidewalks, firebreaks, unimproved roads, and road shoulders. Marchers will not walk on the hard surface of roads except to cross at right angles only as necessary. Individuals will walk, march, or run "FACING TRAFFIC" and at least three feet off the edge of the hard surface of the roadway.
- f. The use of headphones, earphones, or cell phones while walking, jogging, skating, or bicycling on the installation is prohibited.
- g. Vehicle traffic will slow to a speed no greater than 10 MPH when approaching or passing formations, individual marchers, runners, bikers, and walkers on the installation.
- h. Units will conduct road marches during physical training hours when practical. During Physical training hours, units will comply with established routes listed in CAM Reg 350-1. For units conducting foot marches outside of established PT hours, guidance within this paragraph will be followed.

3-8. Privately Owned Vehicles (POV)

a. Privately Owned Vehicles (POVs) will not be used to travel to and from training areas, facilities, or ranges west of Market Garden Road. POVs will not be parked on either side of roads adjacent to ranges or any other facilities. All civilians and range workers will use government vehicles while on the ranges, facilities, or in the training areas.

b. The only exceptions for POV usage are:

(1) Contract personnel are authorized POV usage when government vehicles are not available and only to conduct official business. Passes may be issued by Range Safety during duty hours, 0800-1600 M-F except holidays.

(2) Recreational activities (i.e., hunting, trail riding, etc.) in designated areas only and with the appropriate pass from the Fort Campbell ORD

(3) Personnel who work at Range 28, Range 51, Cassidy Urban Operations, Urban Operations Team at Building IRN36, Live Fire Base, and the Mabry House are authorized to transit through the training areas on named roads only. Personnel who work at or are attending training at the RASCON School of Combat Medicine are also authorized to transit through the training areas on named roads only. Farm vehicles are authorized as long as the farmer is traveling to and from the Agricultural Lease (AGLEASE) fields. All POV vehicle traffic on secondary roads/fire breaks is prohibited.

(4) Civilian employees of U.S. Government agencies and non-DOD civilians required to perform work in the TAs will request information regarding safe routes from Range Branch in person prior to entering the TA.

(5) Any POV in the Training Complex may be stopped by the MPs. Drivers will be asked to produce a pass from Range Branch or a post permit from the Outdoor Recreation Office.

3-9. Driving Safety

a. The true size and shape of Impact Areas and danger zones may change daily, depending upon the size and type of weapons being fired. Within the North/South Impact Areas (Figure 3-2) varying concentrations of duds have accumulated.

b. Blackout Drive. (TC 21-305-2, Training Program for Night Vision Goggle Driving Operations)

(1) The area west of the light line formed by 101 Airborne Division Road, Boiling Springs Road, Mabry Road, and On-the-Line Road is reserved for blackout drive only from 1 hour after sunset until 1 hour prior to sunrise.

(2) The only exception to the blackout drive is the use of service drive or headlights on all paved roads, Patton Road, and West Perimeter Road. Blackout drive is not authorized on these roads except during crossing operations.

(3) When crossing service drive roads, road guards with reflective vests and red filtered lights will be positioned 50 meters on the flanks of the crossing point to warn traffic.

(4) Blackout drive speeds will be consistent with weather, terrain, and nocturnal light conditions. Blackout drive speeds will not exceed 15 mph.

(5) Blackout drive intervals of 15 to 20 meters should be observed if conditions permit.

c. Safe Driving on Patton/West Perimeter Roads. The following measures apply to Patton/West Perimeter Roads:

(1) Speed for single vehicles will be restricted to 25 mph. Convoys (two or more vehicles) will not exceed 20 mph. Follow doctrinal convoy interval procedures.

(2) In planning, all convoys will include "dust" as a risk to be considered and controlled.

(3) Patton/West Perimeter Roads are white light roads, day and night, whether or not the roads appear dusty.

(4) Yield to civilian traffic at all times.

(5) Stopping, troop off-loading, and scheduled halts will not occur on these roads. If you must stop, move off the gravel road surface onto a side fire break. Vehicles halted by breakdown will be marked with reflector triangles and red electric light (not chem-lights), day and night.

(6) Commanders are authorized to implement more restrictive measures based on prudent risk management procedures.

d. Movement of Tracked Vehicles.

(1) Tracked vehicles may operate freely on all dirt roads on the Fort Campbell reservation. All tracked vehicles operating on hard surface roads will travel down the center of the road or as close to the center of the road as possible to limit the damage to the shoulder of the road. A front and a rear guide are required when traveling on named gravel or paved roads. Ground guides are required while operating in motor pools, bivouac sites, and congested areas.

(2) Heavy wheeled (MRAP or equivalent) and tracked vehicles are not authorized in Training Areas (TAs) AB3, 1, 2, 3, 4, 6, 7, 8A, 8B, 15, 16, 26, 27, 28, 30, and Indian Mound LZ. Tactical training and maneuvers in other TAs are authorized. Driving over trees, use of neutral steer, driving through cemeteries, and all other maneuvers that unnecessarily degrade TA's and vegetation are prohibited. If possible, maneuvers should be avoided in cultivated

areas during the growing season (1 May through 31 October). All bridges west of Market Garden Road are not rated for heavy vehicles and tanks. Ensure a good route reconnaissance is conducted to ensure that tracked vehicles do not cross a bridge or culvert crossing that is not rated for tracked vehicles. The allowable MRAP Training Routes map (Figure 3-1) shows training routes permissible for vehicles of different Military Load Classifications (MLC). Each heavy vehicle has a posted MLC (inside the cab of the vehicle or on the front of the vehicle, whether it is wheeled or tracked) that the driver must know before driving. The number is the vehicle's weight in tons modified by certain loading factors. Vehicles must not cross bridges that have MLC limits less than the vehicle's MLC. The MLC of the bridge is posted in advance of every rated bridge and large culvert. Bridges and culverts without ratings must not be crossed by heavy vehicles (MRAPs, Tracked Vehicles, etc.).

Vehicles having an MLC up to 24 may go on any of the colored or hatched routes shown on the map. Vehicles with MLC between 24 and 30 may only go on the major routes shown up to MLC 30 and up to MLC 50. Vehicles having MLC between 30 and 50 are permitted on short sections of road near the Small Arms Impact Area only, as shown. Vehicles over MLC 50 are not permitted on the installation without special approval from DPW.

Within the cantonment, heavy vehicles must only travel on the routes shown within their MLC ratings. Avoid side roads and connectors between roads unless shown on the map. Outside of the cantonment area, heavy vehicles are expected to travel on the routes shown for routine training. For individual exercises, commanders should study the full-sized color map of the installation routes and bridges, and plan their routes according to the bridge rating and vehicle MLC. The most recent black and white and color versions can be found here:

\\campsang\dpw\EngrDiv\EngrDesign\Design Branch\Reports\Bridges\MRAP_Routes

and in the MRAP_Routes folder found here:

<https://portal.campbell.army.mil/garrison/dpw/Shared%20Documents/Forms/AllItems.aspx>

Keep to the colored routes.

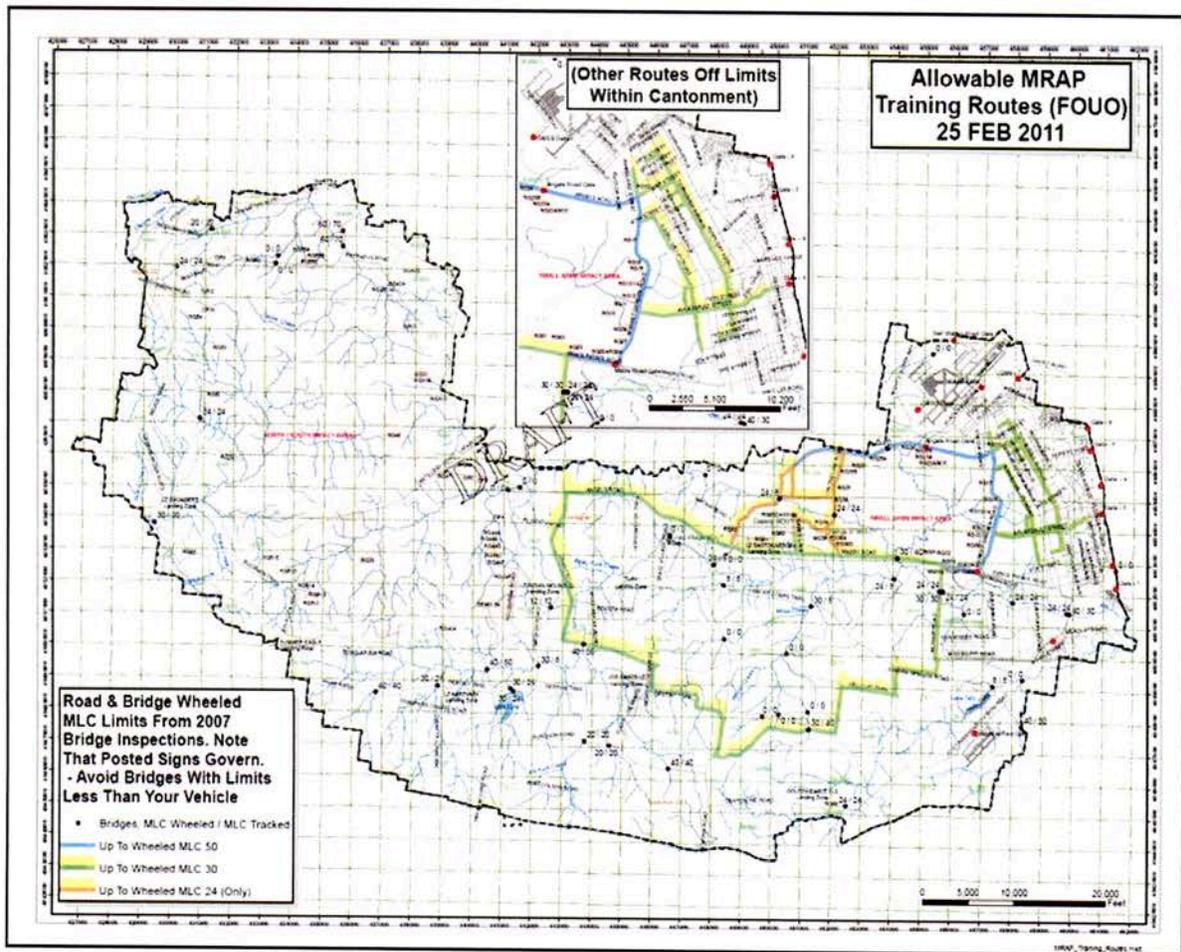


Figure 3-1. MRAP Driving Routes

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e. Speed Limits

(1) Speed limits posted in Table 3-3 are the maximum allowed for all vehicles authorized on roads, fire breaks, and trails:

<u>Road Description</u>	<u>Maximum Speed Limits</u>
Hard surface roads	As posted
Named gravel roads (e.g., Hellcat Trail, Harshbarger Road)	As posted
All non-posted roads, fire breaks and trails	not to exceed 20 mph

Table 3-3. Speed Limits

(2) Light and weather conditions may dictate a more prudent and reasonable speed limit.

f. Driving in Mission-Oriented Protective Posture (MOPP) 4.

(1) Vehicle operators will not wear protective masks while conducting convoy or single vehicle operations on service drive roads.

(2) On blackout drive roads, vehicle operators and commanders may wear full MOPP 4 based on unit commander's training objectives.

(3) Vehicle operators that encounter a riot control agent on service drive roads should stop vehicle, don protective mask, and proceed with caution.

(4) Incidents will be reported to Range Branch immediately.

3-10. Intoxicants and Controlled Substances

a. The unauthorized use, possession, or transportation of controlled substances is prohibited on or in the vicinity of all Fort Campbell ranges, TAs, and facilities.

b. The use of intoxicants is prohibited except as authorized by the Commanding General or his representative.

3-11. Medical Requirements

a. Units firing on ranges within the Small Arms Impact Area are required to have, as a minimum. Combat Lifesaver or equivalent, with an aid bag (complete) on the range. Ranges 1, 3A, 17, 17A, 24, 25A, 27, 27A, and 38 will have a MOS 68W or 18D Medic with complete aid bag and Casualty Evacuation (CASEVAC) vehicle.

b. All live fire maneuver ranges, assault landings, demolition ranges and aviation live fire require a medic (MOS 68W or 18D). When conducting mortar live fire, units are required to have a medic (MOS 68W or 18D) or Field Medical Technician with aid bag (complete), litters, and Front Line Ambulance (FLA). The exceptions will be for Ranges 31, 31B, 31 South, 40A, 44B, 44D, 44E, 44F, 46, 55C, 51A, 51D, and 51E if the units are firing qualification, static, non-maneuver, or long range marksmanship. In such cases, units can replace the FLA with a dedicated covered compatible vehicle. A qualified medic is required at all ranges around the North/South Impact Area. Emergency Medical Technicians (EMT's) alone will not provide medical support unless the soldier is a medic IAW the training standards set forth by TRADOC.

c. All airborne operations will have medical support in accordance with applicable regulations and USASOC Regulation 350-2.

d. Communication with medical personnel is mandatory if unit will maneuver outside the line-of-site of support equipment. Medical personnel will be familiar with and participate in the scenario through all phases: crawl, walk, and run. Medical personnel will only be used for medical support.

e. Medically fitted earplugs or noise muffs will be worn by all personnel on or near the firing line.

f. All MOUT sites, as a minimum, require a Combat Lifesaver with an aid bag (complete) on the range when utilizing blanks. Ranges utilizing Close Combat Marking Capabilities Kit (CCMCK) and Short Range Training Ammunition (SRTA) require a medic (68W or 18D) with complete aid bag and CASEVAC vehicle. Use of Ranges 72 and 73 requires a 68W or 18D medic with aid bag (complete), litters, and dedicated CASEVAC vehicle.

3-12. Surface Danger Zone (SDZ)/Weapons Danger Zone (WDZ) Diagrams

a. Danger Zone Diagrams are prepared for all weapons and explosives to include some of the ranges where limit markers are employed. Some ranges with limit markers have standard diagrams on file at Range Safety. All

diagrams prepared will take into consideration the radiation control area in Figure 3-3 and buffers for wetlands in the North/South Impact Area in Figure 3-4.

b. Commanders will ensure that diagrams not on file at Range Branch are prepared and submitted to Range Branch Safety for approval not later than 10 days prior (16 days prior if target operator required) to the day of firing. The diagrams will conform to DA PAM 385-63 and this regulation.

c. After approval by Range Safety, the original will be maintained at Range Branch and a copy will be given to the unit to be maintained by the OIC or fire direction center as applicable. OICs/RSOs may prepare diagrams at Range Branch if desired.

d. Diagrams will be prepared to the scale of 1:25,000 meters.

e. Units without approved diagrams will not be allowed to conduct live fire on any range or observation point (OP). Requirements for firing artillery are addressed in Chapter 11.

f. Units firing CCMCK or SRTA must have approved diagrams.

g. Units requesting deviations/exceptions to policy will refer to paragraph 1-8.

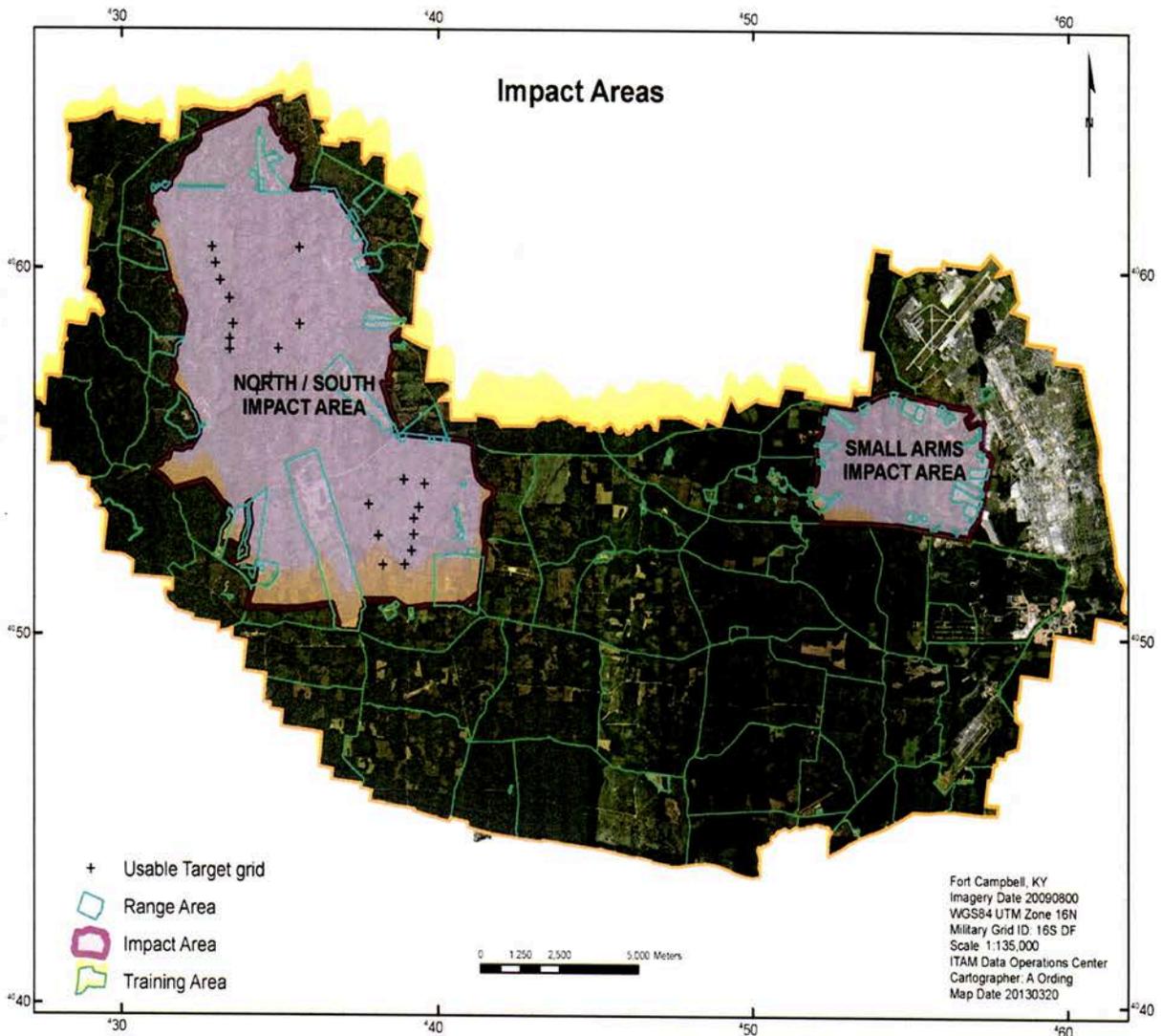


Figure 3-2. North, South, and Small Arms Impact Areas

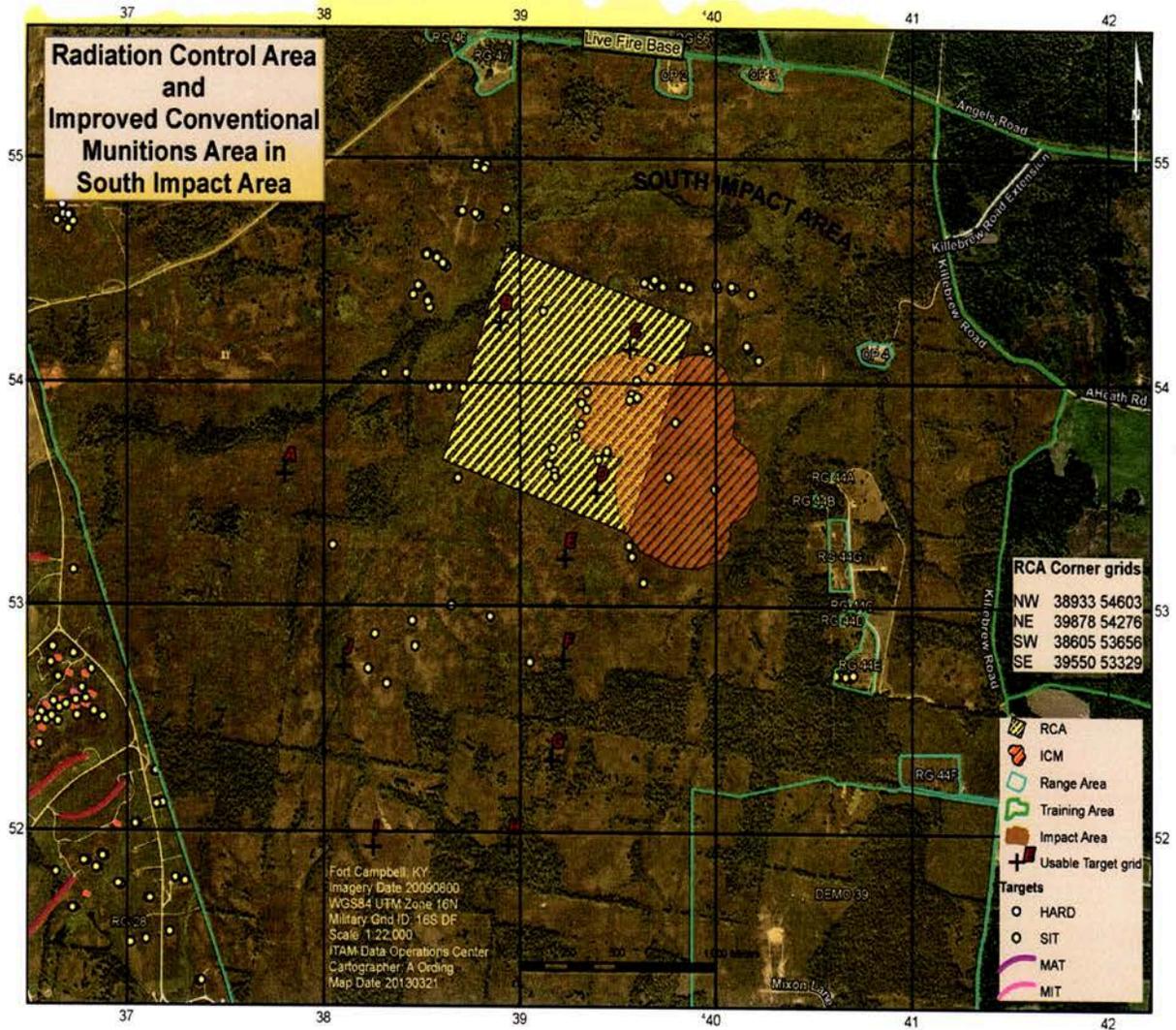
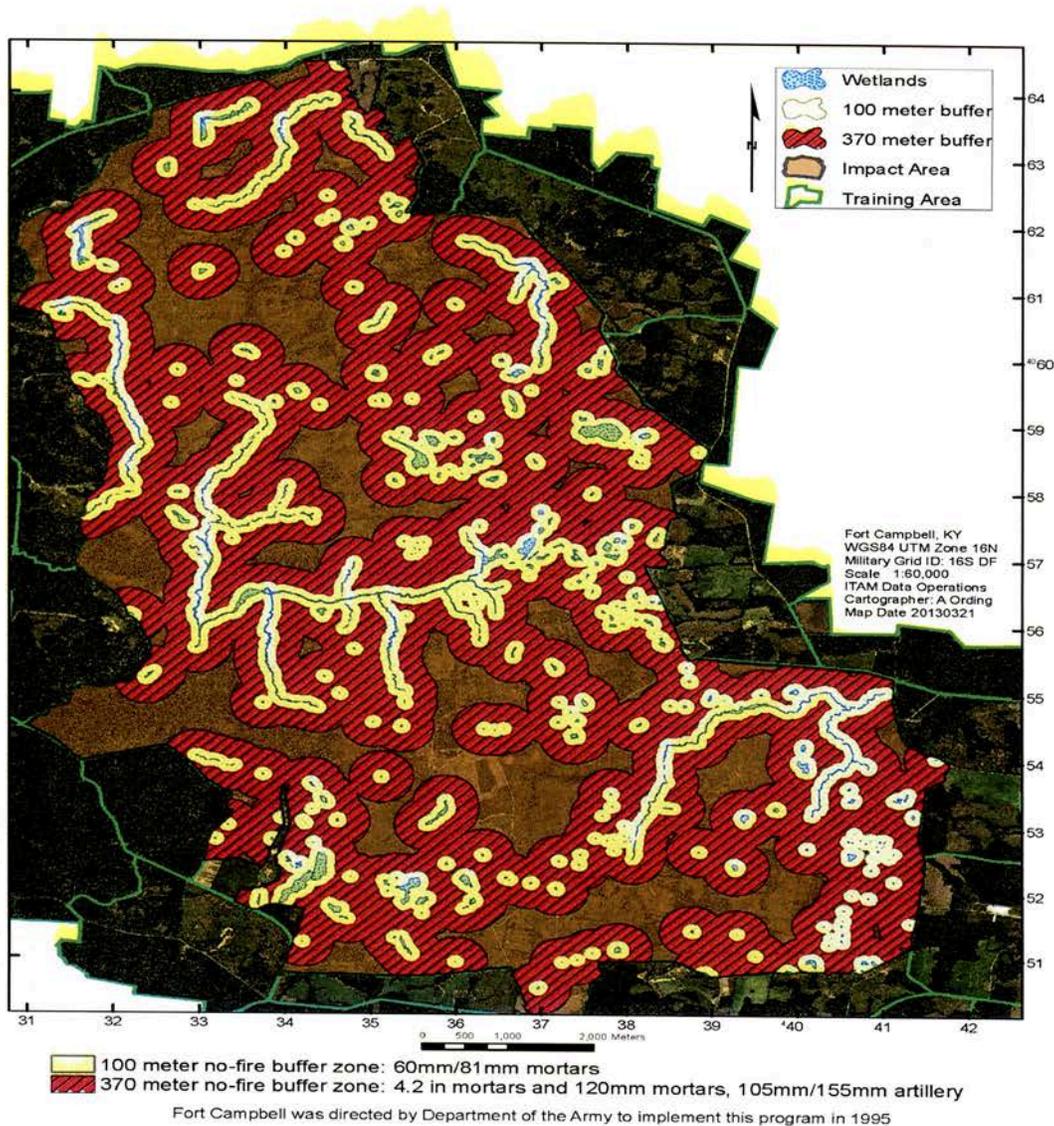


Figure 3-3. South Impact Area Radiation Control Area



The map is color coded with green as the wet land, blue is a 100 meter no fire buffer zone for 60mm and 81mm mortars, the red is a 370 meter no fire buffer zone for 4.2 in mortars and 120mm mortars, 105mm and 155mm artillery. Fort Campbell was directed by Department of the Army to implement this program in 1995.

Figure 3-4. Buffers For Wetlands In North And South Impact Areas

3-13. Inadvertent Over Flight of Aircraft

- a. Small Arms Impact Area: An immediate check fire will be imposed whenever an aircraft is spotted approaching the trajectory of firing. Firing can be resumed as soon as the aircraft has departed Range Area.
- b. North/South Impact Area:
 - (1) An immediate check fire will be imposed whenever an aircraft is spotted approaching the trajectory of firing
 - (2) Contact the Fire Desk immediately and report incident.
 - (3) The Fire Desk will issue a check fire time and check fire initials.
 - (4) Report type of aircraft, approximate altitude, direction of flight, and approximate speed.
 - (5) The Fire Desk will notify other affected ranges/facilities.
 - (6) The Fire Desk will notify Eagle Radio.
 - (7) Once the Fire Desk has been notified by Eagle Radio that the aircraft is clear of the North/South Impact Area, the Fire Desk will contact ranges/facilities and give the OICs a new "Hot" time and "Hot" initials.

3-14. Assigned Responsibilities Concerning Impact Area Warning Signs

a. Responsibilities.

- (1) Range Operations will --
 - (a) Request and install impact area warning signs as needed.
 - (b) Maintain areas surrounding impact area warning signs to ensure visibility, (for example, mowing and removing growing plants).
 - (c) Conduct a monthly 100 percent check of all impact area warning signs to ensure presence, visibility, and legibility.
 - (d) Ensure range clearing procedures include a check of the impact area warning signs.
 - (e) Annually review the placement and wording of the signs with Staff Judge Advocate (SJA) to ensure no new precedence has been established which could expose the government and Fort Campbell to a lawsuit.
 - (f) Stress to units during the Resource Allocation Conference and the Range Orientation Briefing, impact area warning signs are not to be tampered with, obscured, or removed.
 - (g) Coordinate/mark the placement of impact area warning signs with DPW and SJA.
- (2) Staff Judge Advocate (SJA) will advise and assist Range Branch in developing the placement and wording of impact area warning signs. SJA will inform Range Branch as soon as possible if changes in either the law or regulations require rewording the warning statements on the signs.
- (3) Public Affairs Office (PAO) will ensure soldiers, family members, and members of the general public are educated on the hazards of trespassing and handling unexploded munitions through periodic press releases to post and local community newspapers. Copy of a presentation can be found on the Fort Campbell Intranet under Knowledge Management Site.
- (4) Installation Safety Office (ISO) will coordinate with local schools, both on and off post, to educate children on the hazards of trespassing and handling unexploded munitions through the use of the **Project Beware Program**.
- (5) Morale Welfare Recreation and Families (MWRF) will use members and facilities of Outdoor Recreation Division (ORD) to educate sportsmen using Fort Campbell property for hunting or fishing, on the location of the impact areas and the methods by which these areas are marked.
- (6) Directorate of Public Works (DPW) will fund and fabricate Impact Area Warning signs as requested by Range Branch.

b. Additional Instructions.

- (1) Range Branch has the lead in the endeavor to preserve life and limb from injuries that can occur by accidentally entering the impact area.
- (2) All actions regarding the maintenance, visibility, and presence of the impact area warning signs will be documented and maintained in an appropriate file and retained for at least 5 years.
- (3) Agencies assigned a training mission should consider using Explosive Ordnance Disposal (EOD) assets in developing educational programs.
- (4) All unit commanders must emphasize to unit personnel that impact area warning signs must not be removed or destroyed.
- (5) Figure 3-5 indicates location of impact area boundaries for the Small Arms and North/South Impact Areas.

3-15. General Guidelines for Range Road Guards

a. Range Road Guards are required on all live fire maneuver ranges, indirect firing points, demolition areas, and aerial gunnery ranges. Road guards are not required at the entrance to small arms ranges around the Small Arms Impact Area except Ranges 1, 3A/B, 17/17A, 24, 25, 27/27A, and 38/38A.

b. Units may be required to post multiple road guards for specific live fire ranges around the North and South Impact Area. Instructions pertaining to where and when to post the road guards will be listed on the range safety packet.

c. Range OIC and RSO will ensure --

- (1) Road Guards receive a briefing and a map orientation of the area to be guarded.
- (2) General and special orders are explained to and understood by the Road guards. Road Guards will wear reflective vests during hours of limited visibility or at night. Flashlights will be used to assist in stopping and/or directing traffic.
- (3) Road Guards have operational communications with OIC/RSO prior to being posted and throughout the tour of duty. Hourly communications checks will be conducted.
- (4) Road Guards will report any ordnance or ammunition impacting outside of the designated impact area.
- (5) Road Guards, unsure of any problem or incident, will report the situation to the OIC/RSO and request assistance or guidance.

(6) Road Guards have the authority to call a cease fire if personnel or equipment is about to be injured or damaged.

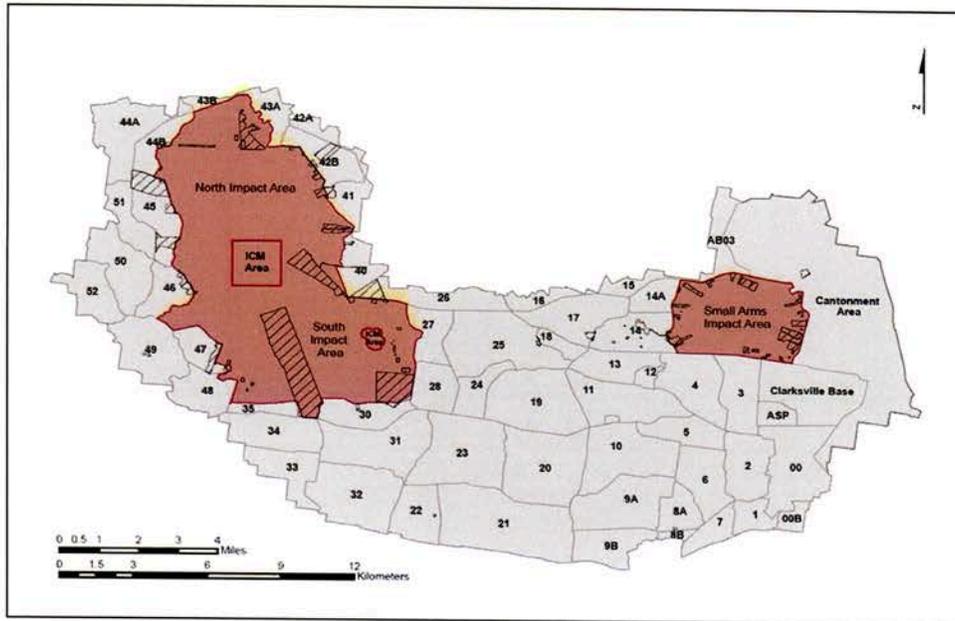


Figure 3-5. Impact Area Boundaries

3-16. Composite Risk Management (FM 5-19)

a. General. Effective risk management enables tough, realistic training to be conducted, whether on our ranges or deployed elsewhere, and to execute combat missions. Risk management is force protection in the most fundamental sense.

b. Responsibilities.

(1) Commanders will --

(a) Ensure that the risk management guidance provided in this section and CGs Policy Letter 25 are implemented.

(b) Use the FC Form 4162 or DA Form 7566 as a standardized tool for conducting and documenting the risk management process thoroughly. This form is required for all operations (for example, convoys of six or more vehicles, field training exercises, ranges, live fires, aerial gunnery, and air assault training).

(c) Use an informal mental or verbal process for every operation even when levels of risk have been assessed as low. This will ensure that changes that could cause the level of risk to increase, such as weather, soldier experience levels, condition of vehicles, etc., are monitored. .

(d) Ensure that a copy of the completed, signed risk assessment form is on location for each range and field operation. Ensure the unit provides the original form to Range Branch not later than coordination deadline prior to the operations. Units may use the same form previously used, provided that no further hazards have been identified. The signature of appropriate level commander is required. Refer to Table 3-4. Units should maintain both a hard and electronic disk copy of the completed FC Form 4162 or DA Form 7566.

(2) Range Branch will include the risk management requirements of this regulation into the range briefing.

c. Process. The concepts of risk management apply from the initial planning stage to the after action review. It is a process that gives leaders a systematic framework to deconstruct, evaluate, adjust, and then reconstruct operations, adding controls to reduce unnecessary hazards to their soldiers and equipment. The key to the system remains the alert, experienced leader.

(1) The five step process for risk management includes:

(a) Identify hazards.

(b) Assess the risk of each hazard.

(c) Make risk decisions and develop controls.

(d) Implement controls.

(e) Supervise and evaluate.

(2) Effective risk management is multi-echeloned. Once an element of risk is identified and assessed in the overall mission, subordinate commanders conduct their separate risk assessments and implement measures to control, manage, and reduce the risk in their part of the operation.

(3) The process of risk management is dynamic. Mission, weather, and resources will cause adjustments to the training plan or the operation. Leaders must continually review, evaluate, and amend their risk assessment when tasks and conditions change. The same task conducted at night has different risks. Commanders must reassess and validate their command reviews of the affected operations.

d. Standards. Effective risk management relies on two tenets - leader training and “arms-length” review.

(1) Train leaders first. The following courses are mandatory training for leaders.

(a) Executive Risk Management Course for brigade and battalion commanders, executive officers, division staff officers, and command sergeants major (CSMs).

(b) Operation Planners Risk Management Course for Division, brigade, and battalion staff operations planners (for example, S3s, S4s, division chiefs, operations NCOICs).

(c) Company Commanders and First Sergeants Course, NCO Professional Development (NCOPD), and Officer Professional Development (OPD).

(d) The above courses are recommended for Range OICs and RSOs. However, risk management doctrine is now integrated into officer and NCO professional development courses throughout the Army. This training is also acceptable for the required documentation (paragraph 3-2) for Range OICs and RSOs.

(2) “Arms-length” command review (certified when the leader signs Block 12 of the FC Form 4162 or DA Form 7566) is essential to effective risk management. It reinforces practices used in combat and provides the best forum for the commander to teach and coach subordinate leaders. The command review provides that critical second set of eyes to avoid the bias of ownership.

(a) Risk management, identifying the hazards through implementing the controls, resides at each level of execution. In training, as in combat, a platoon leader will conduct the initial risk assessment of his platoon operation; likewise, the squad leader for squad missions or the company commander for company level operations. Brigades and battalions develop, assess, and choose tactical courses of action considering risks to the force. All MUCs will address Soldier fatigue hazards and identify controls to mitigate risk on Fort Campbell Form 4162 or DA Form 7566 (Risk Assessment Worksheet) for training events requiring Soldiers to be on duty in excess of 16 consecutive hours. Attention given to risk will minimize the effects of sleep deprivation and devise techniques and controls to prevent incidents based on the effects of fatigue.

(b) The commander at least one level above the level of execution possesses the requisite expertise and experience to objectively evaluate the mitigating effects of the hazard controls. While the commander may not be totally removed from the plan, this separation, combined with training experience, provides the necessary buffer for objectivity. Though the chart below allows brigade and battalion commanders to review/approve some brigade/battalion level missions, they should avoid reviewing their own echelon-level missions.

(c) Table 3-4 provides the minimal thresholds of command approval required for given operations, regardless of the echelon executing the training.

(d) All live fire exercises will be conducted in accordance with CGs Policy Letter 25. Live fire exercises are our most valuable and critical training events. They replicate most closely battlefield situations and conditions. Multi-ship air assaults, and non-standard, non-maneuver live fire ranges (for example, hand grenade or non-standard demolition ranges), and maneuver live fire ranges are at least medium risk and must be reviewed/approved by the battalion commander.

(3) The command review provides essential leader training. When correctly performed, 90 percent of the valuable training happens before the event. Whenever possible, this training should be conducted on the ground with leaders present. The commander verifies the tactical and administrative soundness of the plan; checks the preparation and thought processes of the executing leader; ensures the control measures and hazard mitigation controls are effective and tactically sensible; and coaches the subordinate in the nuances of the collective task at hand. It is in this environment on the ground, minus soldiers and routine distractions, one on one that the true teaching learning occurs.

(4) Knowledge gathered from training should be shared with peers and other units. A re-submittal to Range Branch of post-operation risk management worksheet with changes can accomplish this goal.

e. Goals and Objectives. Effective risk management enhances both training and operational competence. Leaders who understand and employ its underlying principles expand their capabilities by discovering their strengths and their limits. The payoff is threefold:

(1) Increase training realism.

(2) Enhanced operational agility.

(3) Conservation of the most precious resource - soldiers - whether in training or combat.

Type Mission	Minimum Assessed Category of Risk	Minimum Level of Command Approval Authority
Seats-out air assault operations	Extremely High	Commanding General
Waterborne training	Extremely High	Appropriate Assistant Division Commander
Any mission (not listed above)	Extremely High	CG or designated representative
FRIES	High	Brigade Commander(for Pathfinder & RSTA, Scout Plt)
CALFEX	High	Brigade Commander
Brigade air assault	High	Brigade Commander
Any mission (not listed above)	High	Brigade Commander
Multi-ship air assault (Bn level or below)	Medium	Battalion Commander
Maneuver live fire ranges, demolitions, hand grenades	Medium	Battalion Commander
Non-standard, non-maneuver live fire ranges, SRTA, CCMCK used during Force on Force, MK19/47 live fire	Medium	Battalion Commander
Any mission (not listed above)	Medium	Battalion Commander
Single ship mission	Low	Designated Mission Briefer(per AR 95-1)
Static, non-maneuver live fire ranges, small arms, .50 cal. and below, zero, qualification and familiarization	Low	Company Commander
Any mission (not listed above)	Low	Company Commander or O3 Officer

Table 3-4. Minimal Thresholds of Command Approval

3-17. Wildlife

a. General

Persons in charge of training with live munitions within the Fort Campbell training complex are responsible for compliance with the safety requirements regarding wildlife during training. Training units will not shoot or wound wildlife.

b. Where wildlife enter a SDZ the OIC will place their facility in a cease fire and contact Range Operations personnel or the Fire Desk to go down range and clear away the hazard.

c. The Outdoor Recreation Division is the only approving authority to hunt wildlife.

Chapter 4

Training Facility Utilization

4-1. General

a. This Chapter provides guidance for training facility usage.

b. Based upon the latest land use requirement study, Fort Campbell has only 30 percent of the maneuver land and impact areas required to meet existing training demands. Therefore, all training facilities must be utilized to the maximum extent possible. Cancellations must be submitted the moment a unit recognizes they will not use a facility.

c. Training land utilization is a special item of interest for the General Accounting Office in Washington, DC, FORSCOM, and the Commanding General. Utilization statistics are reported in the Installation Status Report (ISR) and within the Program Management Reviews (PMR).

d. The installation standard for range and training area utilization is 75 percent.

4-2. Coordination of Training Facilities

a. Coordination deadlines for each type of facility are as follows:

(1) 16 calendar days prior to the first training date for any facility that requires a range target operator. These ranges are: 1, 2, 3, 4, 8, 7/9, 10, 11, 13/14/15, 17, 18, 20A/B, 21A/B, 23A/B, 26, 27 and 36A/B in the Small Arms

Impact Area. Ranges 28, 31, 41(If using flechette targets), 42, 46, 52, 54, 55 located around the North and South Impact Area.

(2) 10 calendar days prior to the first training date for any facility that requires a range walk with Range Operations Specialist (Range Manager). These facilities are: 3A, 3B, 17A, 27A, 31B, 31South, 37, 38/38A, Demo 39, 40, 40A, 41(If not using flechette targets) 44A, 44B, 44C, 44D, 44F, 44G, 45, 47, 50, 51A, 51B, 51C, 51D, 51E, 51G, 53, 56, 60/60A/, 61, 62, 63, 64, 65, 66, 67, 68, 69, 71(TUAS-19), 72, 73, 74 (TA28/Indian Mount LZ), 75(Sukchon DZ), 76, 101 (Cassidy), Observation Points 2, 3, 4, 8, 10, 12, 13, Aircraft Operations and all Field Artillery live fires.

(3) 48 hours prior to the first training date for any facility that does not require a target operator or a range walk. These ranges are: 2A, 7, 11A, 12A, 15, 16, 20B, 21B, 22, 22A, 22B, 22C, 22D, 23B, 24, 25A, 26A, 26B, 29, 33, 35, 35A, 36B, 36C, 36D, 70 (5SFG Indoor Range), and all training areas excluding TA 17.

(4) No facility will be scheduled within 48 hours prior to the training date.

b. MQTRs are designed to provide Brigade Combat Teams (BCT) resources in the small arms impact area to train and qualify soldiers in a safe and efficient manner. Each MQTR will provide a Modified Record Fire (MRF) range to qualify with the M4/16, Combat Pistol Qualification Course (CPQC), Multipurpose Machine Gun (MPMG) range, zero ranges for 5.56 and 7.62 calibers, and a grenade launcher range for M203/M320 Target Practice Training (TPT)

c. Safety is first and foremost. Because of the concentration of ranges and the SDZ/WDZ requirements in AR and DA PAM 385-63, Range Branch will retain positive control of all training facilities west of Market Garden Road and ensure soldiers and civilians are provided a safe environment. No soldier or civilian will proceed past the firing line/point (not including 10 and 25 meter zero ranges or flat ranges) without coordinating with the firing desk, Range Branch. All units, whether they are participating on ranges associated with a MQTR, or separate non MQTR facility, will comply with requirements in Chapter 3 and 4 of this regulation.

d. OICs or RSOs will complete the coordination in the Range Safety Office prior to the deadlines listed above.

(1) As a minimum all facilities require a shortened opening procedures memorandum and a risk management worksheet.

(2) A completed range packet for facilities that require a range walk will include a cover sheet, shortened

e. Inform Range Branch and QASAS if planning to use a field ASP provide an 8 digit grid, and how long it will be in place. opening procedures memorandum, a risk management worksheet, a signed coordination sheet from the Range Manager, SDZ/WDZ, and a concept of operations.

4-3. Occupying and Closing of Training Facilities

a. Units occupying a training facility will contact Range Branch by a personal visit, telephone (TAs only), or FM radio for all other facilities. All units scheduled to use a facility to include joint users, are responsible for opening and closing their facility.

b. OIC will request an occupied status and initials prior to conducting training.

(1) Range OICs must transmit or verify the following information to/with Range Branch before the range will be placed in an occupied status.

(a) Location and Unit.

(b) Range OIC and RSO (name, rank, and last four numbers of social security number (SSN).

(c) Type of weapon(s) and ammunition that unit is approved to fire.

(d) Two means of communication (e.g., FM frequency and/or telephone number for alternate).

(e) Impact area being used (North or South).

(f) Maximum and minimum ordinates (Mortar/Artillery) and forward observer (FO) location.

(2) All OIC/RSO changeover(s) must be requested and approved by Range Branch.

(3) Units failing to properly utilize their facility will be carried in a "no show" status.

****Note: Blank ammunition is the only authorized ammunition to be fired while in an occupied status. All other ammunition will only be fired after receiving a hot time and initials. Hot status will only be given on FM radio****

c. All unit OICs closing a training facility should be prepared to provide the following information:

(1) All personnel and equipment are accounted for.

(2) Number of personnel trained and ammunition/rounds fired by type and Department of Defense Identification Code (DODIC).

(3) Number of duds (with grid location) and misfires if applicable.

(4) Number of personnel training, number of vehicles, and training activity.

d. Range Branch will provide unit with a closing time and initials.

e. All initial opening data will be read back to ensure transmitted information is correct. All communication checks will include the designation of each Range, Firing Point, or OP (e.g., "Range Branch, Firing Point 27A, communication check over").

f. All training facilities must be closed with Range Branch prior to the unit leaving the facility. The OIC of live fire ranges will call Range Branch Firing Desk and request an inspection and clearance. If unit is occupying a MOUT site for multiple days, only one opening and closing inspection is required.

4-4. Training Facility Recovery

a. Commanders of using units are responsible for the recovery of Fort Campbell training and range facilities.

b. Upon completion of training, the commander's representative will supervise a thorough police. All non-permanent targets will be removed from the range and stored in a location away from any engagement/live fire area as designated by the Range Specialist. Clean all common use areas such as mess areas, latrines, towers, and entrance roads. No trash, ammunition, ammunition boxes, brass, tactical wire, barrier materials, or other debris will be left in the area. All emplacements, demolition craters, tank ditches, weapons positions, foxholes, and any other excavations will be filled by the using unit so that the training facility's appearance returns to its original state prior to requesting a range inspection.

c. Hazardous material, such as blank and live ammunition or coils of concertina wire, will not be placed in dumpsters.

d. Task Force commanders must insist on a good restoration effort by slice elements and co-users prior to end of exercise (ENDEX). Should a unit occupy an area which was not properly restored by a previous unit, call Range Branch immediately.

e. Fort Campbell Digging Management Policy.

(1) Units are not authorized to randomly dig anywhere on post.

(2) Fort Campbell has significant archeological sites and wetlands that are regulated by Federal and state law.

(3) Units that require mechanical digging and berming during their training must request a dig permit through Range Branch/ITAM. Upon approval the unit will receive a digital photo map and clearance for the digging.

(4) MUCs are required to allocate engineer assets to recover any mechanically dug holes or berms.

(5) Units will obtain grass seed from Range Branch/ITAM.

(6) Digging and training in cemeteries is not authorized.

f. To fix responsibility for poor restoration efforts, the last unit scheduled for the facility will be held accountable.

4-5. Portable Latrines on Live Fire Ranges

All Ranges around the Small Arms Impact area have portable latrines that are contracted and coordinated by Range Branch. All units conducting training anywhere else on post, to include facilities and ranges around the North and South Impact Area, will request and have portable latrines on site prior to occupation, due to environmental and sanitation requirements. CAM Regulation 420-14 establishes policies, responsibilities, and procedures for use of field latrines on post and in training areas. It applies to all units and groups, military or civilian, using the Fort Campbell military reservation. Portable latrines that are found with ammunition in them are subject to being locked and/or removed from the range and the using unit will be required to coordinate for their own latrine support through DPW. Units will request portable latrines through DPW at (270)798-1273/1274.

Chapter 5

Range Communication System

5-1. General

a. The Range communication radio system is a range safety net. It handles heavy traffic loads; therefore, unauthorized traffic, such as the testing of radios in garrison and personal calls, are not permitted. The systems operate 24 hours a day, 7 days a week.

b. The call sign for Range Branch for all wire and radio nets is "Fire Desk." Unit call signs will consist of the range or training facility number.

c. The primary duty of Range communications personnel is to coordinate the firing of live ammunition into all ranges and impact areas, monitor training facility usage, advise Eagle Radio of hazards to flight, and request for MEDEVAC/ambulance service.

d. Units should report their command post (CP) locations to the Fire Desk to facilitate routine and emergency situations.

e. Live firing units will monitor the range safety net continuously. In the event of a breakdown of communications between a firing range (position) and the Fire Desk, a mandatory cease fire will be self imposed until communications are reestablished. Communication checks from ranges/live fire areas will be made with the Fire Desk once every hour on the alternate frequency.

f. Units firing on ranges equipped with "Class C" phones can use these phones as their secondary means of communication with the Fire Desk.

5-2. Range Radio System

The FM frequencies are: Primary 71.25, alternate 49.90. Units may utilize their own Motorola radios as long as they are loaded with the primary and alternate frequencies. Units will not be allowed to go HOT until reliable communication is established.

5-3. Cellular Phones

a. Cellular phones do not meet the communication requirements for opening and closing training facilities west of Grant Road and Indian Mound Road. All cellular phones that are used east of Grant Road and Indian Mound Road for alternate means of communications will be used for this purpose only. After the Fire Desk RTO has verified certification of OIC, the Fire Desk RTO will call the unit OIC to verify that the cellular phone and number are operational. Prior to the Fire Desk giving the OIC a "HOT" time, the Fire Desk RTO must inform the OIC that the phone will be used only for communication with the Fire Desk and the OIC must keep the phone line open at all times.

b. Range Branch is the only approving authority for cell phone use.

Chapter 6

Multipurpose Qualification Training Range (MQTR).

6-1. Purpose

This Chapter provides guidance and descriptions of ranges within the MQTRs.

6-2. MQTRs

(<https://www.us.army.mil/suite/files/38939492>)

Chapter 7

Range Maintenance and Modernization

7-1. Purpose

This Chapter outlines both unit and installation staff responsibilities for range maintenance, modification, modernization, and construction.

7-2. Range Maintenance Responsibilities

a. Range Branch will:

(1) Ensure all Fort Campbell training facilities are operational.

(2) Schedule DS/GS maintenance for all ranges. Range Scheduling is responsible for scheduling maintenance dates. Scheduled range maintenance days will be identified to units at least 14 weeks in advance.

b. Range Maintenance and Support will:

(1) Schedule and perform all direct support/general support (DS/GS) target maintenance.

(2) Coordinate with DPW for grounds maintenance to include grass cutting and berm repairs on ranges.

c. Range Operations will inspect all ranges periodically for cleanliness and damage. Ranges used during the day will be inspected prior to the unit being cleared from the range.

7-3. Range Modernization/Construction Responsibilities

a. Range Modernization is a continuous and challenging process that requires proactive management and comprehensive planning to effectively develop and improve Fort Campbell's ranges.

(1) Fort Campbell's Range Modernization Process (RMP) planning requires continuous coordination among members of the 101st ABN DIV (AASLT) staff, Garrison staff, and tenant units. ACofS G3 leads a steering committee to support range modernization which includes but is not limited to personnel from: ACofS G3, SRMO/GRMO, DPTMS, Range Branch, DPW, NETCOM, Installation Safety, and tenant units.

(2) The RMP consists of a Range Complex Master Plan (RCMP) and the Mission Requirements Board (MRB).
 - Fort Campbell's RCMP is a prioritized list of projects, most likely long term requiring substantial funding.
 - Fort Campbell's MRB is a requirements strategy board made up of Fort Campbell Commanders who prioritize training range facility projects. The MRB will meet semi-annually to prioritize live, virtual, and constructive training requirements.

(a) Range Modernization Process Checklist - Fort Campbell's process is organized to clearly identify and define the significant details (training, design, funding, time) of projected ranges (Table 7-1).

General	Training
Requesting Unit, Agency, or Organization	Requirement Reviewed and Validated
Date of Original Submission (MM/YR)	New Capability, Replace Existing, Revitalization
Prioritization and / or Fiscal Start Year	Alternative Analysis conducted
Design and Funding	Army Standard Range / Category Code
Confirm and Validate Location	Sustainment and Time
Approximate Cost to Design - \$k to \$k	Personnel required to operate range
Approximate Cost of Project - \$k to \$k	Sustain \$ and / or World-wide Contr. Logistic Spt \$
Funding Type (MCA/UMMCA/OPA/OMA/SRM)	Length of time to acquire / build - # of months
1391 Required? 1391 Completed (MM/YR)	Projected Start and Completion Date MM/YR

Table 7-1 MRB Checklist

(b) Range Steering Committee (RSC) - The RSC serves to provide input to the MRB and the Senior Commander (SC) on the future composition and capabilities of Fort Campbell Ranges. The RSC is comprised of representatives from all MSCs on the installation as well as the Installation Sustainment Range Program Manager and any other interested agencies. All brigade-size or larger units will nominate two individuals (normally one field grade officer and one senior NCO) from their units to serve as members. The RSC meets when necessary, and is co-chaired by ACoFS G3-Training and Installation Sustainment Range Program Manager.

(c) Range Requirements Nomination - Fort Campbell units or organizations will identify requirements for new range construction or significant range modifications by submitting a memorandum to the RSC with the below information, Table 7-2. Submitting unit will brief the project at the next RSC meeting and defend their request.

Memorandum Request for Range/Training Facility
Requesting Unit, Agency, or Organization and Date
Type of range or Capability Requested
Training Requirement
New Capability, Replace Existing or Revitalization
Enduring Capability
Approximate cost, if known - \$k
Proposed Site

Table 7-2 Range Nomination

(d) MRB Process - All subordinate units and installation tenant elements play an integral part in defining the requirements for range modernization.

(1) RSC - Review and validate nominated requirements. The RSC, if necessary, will develop the concept of the range project to fulfill the requirement and compare the requirement to existing doctrinal range requirements published by the Army Training Support Center (ATSC). The RSC recommends prioritization of projects to the MRB.

(2) ACoFS G3 - Evaluate nominated projects against existing facilities and consider USR comments, and training requirements.

(3) The MRB meets to review and prioritize the RSC recommended listing of projects.

(4) DCG (Operations) reviews and approves the project listing for execution.

(5) DPTMS, Range Branch – Review/validate design, and approve requested site with SDZs or selects location with SDZs. Project sustainment costs, if needed. Develop funding strategy for approved projects.

(6) Directorate of Public Works - Process the proposed site through the Siting Board and if project is UMMCA or MCA, develop 1391 for Garrison Commander's approval. Develop the final design ICW Range Branch and construct the range/training facility.

(e) Range Complex Master Plan (RCMP). The RCMP is inputted into the web-based RCMP Tool by the Installation SRP Manager (Range Officer). Various inputs are required from the Garrison staff to project training area complex projects needed to support tenant units home station training missions. The RCMP is reviewed and approved by the Garrison Commander or his designated representative.

Chapter 8

Small Arms, Grenades, and Light Anti-Armor Weapons

8-1. Purpose

This Chapter establishes range safety procedures for firing small arms, grenades, and light anti-armor weapons at Fort Campbell.

8-2. General

- a. Report all accidents and incidents to Range Branch immediately, but no later than 30 minutes.
- b. This Chapter outlines the policies and procedures to be followed by Range OICs and RSOs when operating firing ranges at Fort Campbell. It does not supersede or replace any requirements delineated by other Fort Campbell, FORSCOM, or Army regulations.

8-3. Commanders

The firing unit commander is responsible for safety during all phases of a firing exercise under his control. Commanders, battalion level and above of units using small arms, grenades, or light anti-armor weapons ranges, will establish and maintain a safety training and certification program. As part of this program, battalion commanders will submit a memorandum listing individuals in their respective units certified to perform the duties of OIC and RSO to Range Branch. An example of a Certification memorandum is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>). This memorandum will be updated as required.

8-4. Range Officer in Charge (OIC) Procedures

a. Before operating a Range, OICs will be thoroughly familiar with DA PAM 385-63 and this regulation. Additionally, OIC's will:

(1) Submit all target fabrication requests to Range Maintenance (ATTN: Carpentry Shop) NLT 10 days prior to the date of intended use. All requests will be dealt with on a first-come-first-served basis. Request any portable electrical targets, accessories, and/or target carriers from Range Operations, not later than 10 days prior to the date of intended use.

(2) Contact the battalion S3 or unit training NCO, and verify that Range Safety has an updated unit certification memorandum and the OIC(s) and their RSO(s) are certified to run the range.

(3) Submit appropriate Risk Assessment, Short Opening Procedures Form, and all other documents required by this regulation to Range Safety NLT 16 days prior to scheduled training date (10 days for ranges that don't require target operators).

(4) Ensure troop and transportation resources are available to pick up and install requested items from Range Maintenance.

(5) Sign for and pick up all required range operation equipment (paddles, clearance sheet, flag, etc.) from Range Operations, one working day prior or on the day of intended range use.

(6) Ensure units schedule an operator NLT 16 days prior for Small Arms ranges, maneuver ranges, and all ranges around North and South Impact Areas requiring a range operator.

b. During Operation of the Range, OICs will --

(1) Ensure they have the proper regulations and approved Short Opening Procedures Form, risk assessment, and/or Range Packet on hand.

(2) Ensure that the impact area is clear of personnel and equipment prior to requesting "HOT" status.

(3) Request permission to open the range ("HOT" status) through the Fire Desk.

(4) Ensure the range communications net (radio and phone) is monitored continuously.

****ATTENTION: In the event of Communications Breakdown between their Range and Range Branch, OIC's will institute a Mandatory cease Fire/Check Fire immediately until Communications are reestablished. Cellular Phones will not be used West of Grant Road and Indian Mount Road as the Primary or Alternate means of Communication with Range Branch.****

(5) Ensure a communications check is made with the Fire Desk (radio frequency 49.90) every hour. Incoming or outgoing calls with the Fire Desk may be considered an effective communications check in lieu of calling during any one-hour period.

(6) Ensure proper uniform and approved hearing protection devices are worn by all personnel on or near the firing line.

(7) Range Operations target operators are the only authorized personnel to operate computers/targets.

(8) SUSPEND FIRE IMMEDIATELY WHEN AN UNSAFE ACT OR CONDITION OCCURS.

(9) Conduct range operations in accordance with appropriate regulations; AR 385-63, DA PAM 385-63, Cam Regulation 700-2, Cam Regulation 385-5, FMs, TMs, and unit range SOP.

c. When Closing the Range, OICs will --

(1) Ensure that all ammunition and residue are returned to the ammunition supply point (ASP). Inspect all personnel for ammunition and residue before they leave the range.

(2) Contact Fire Desk and request an inspector. If the range is to be closed after hours of darkness, coordinate an inspection for early the following day. Ensure that all of the items listed on the range inspection sheet are ready for inspection.

(3) Conduct a closing inspection with the Range Inspector. Correct any deficiencies noted on the Range Inspection Form and ensure the inspector signs it.

(4) Contact the Fire Desk and request to "Close" the range before departing.

(5) Turn in all targets, target accessories, and other range items to Range Branch once the inspector signs the DA Form 2062 relieving the OIC of responsibility for the range. If the range is cleared after normal duty hours, OICs will ensure their hand receipts are cleared not later than the first working day after completion of range firing.

8-5. Range Safety Officer (RSO) Requirements

The RSO will be thoroughly familiar with DA PAM 385-63 and this regulation. RSO will also ensure:

a. A copy of AR 385-63, DA PAM 385-63, CAM Regulation 700-2, FC Form 4162 or DA Form 7566, the appropriate FM/TM(s) pertaining to the weapons being fired, the unit range SOP, and this regulation are available at the range. Additional checklist can be found in TC 25-8 (Training Ranges) appendix C.

b. There is an updated Certification memorandum on file at Range Safety giving the correct information for the OIC and RSO. Verify that they have been certified by the battalion commander.

c. All personnel on the range are briefed on range safety, operation of the range, and ammunition handling.

d. There is a minimum of one assistant safety NCO for every four firing personnel and all assistants are briefed on their duties. The assistant safety NCOs will also be familiar with the safety regulations.

e. All personnel wear helmets and approved hearing protection. Additionally, for CCMCK/SRTA, wear all appropriate protective equipment at all times.

f. An eagle first responder, qualified combat lifesaver, or medic as appropriate, with a medical aid kit and appropriate communication equipment is present.

g. An ambulance or similar evacuation vehicle(s) with communication equipment as required and assigned driver(s) are present at each firing range except specified ranges within the Small Arms Impact Area. Ranges in the Small Arms Impact Area will receive ambulance assistance from Blanchfield Army Community Hospital (BACH).

h. All soldiers are cautioned that poisonous snakes, poisonous spiders, wasps, bees, ticks, and other dangerous animals and insects may be found on any range.

i. The impact area is clear of personnel and equipment prior to requesting "HOT" status and opening fire.

j. Each weapon is inspected by a designated individual to see that chambers and barrels (tubes) are free from obstructions.

k. No one goes forward of the firing line during firing.

l. Weapons are pointed up and down range at all times when on the firing line. Stress muzzle awareness.

m. The right and left limits of the range are visible and the troops are made aware of their locations.

n. **Only those targets in the firer's lane are engaged by; firing across lanes or in another lane is prohibited.**

o. Ammunition is properly stored and handled and there is no smoking around ammunition, explosives, or flammables. Two ten pound BC or ABC fire extinguishers will be readily available (refer to AR 385-64, DA PAM 385-64, and CAM Reg 700-2).

- p. The range flag, supplemented by a blinking red light after sunset, is properly displayed. Ensure a red smoke grenade is available for use in case of air MEDEVAC. Range flag and targets are issued by Range Operations personnel. A red smoke grenade will not be required for ranges in the Small Arms Impact Area.
- q. Road guards, properly instructed in their duties and/or appropriate barriers with signs, are posted to cover all vehicular approaches to a range in a "HOT" status. Refer to paragraph 3-15 for ranges requiring road guards around the Small Arms Impact Area.
- r. Dual means of communications are established and maintained with Fire Desk.
- s. "HOT" status is obtained from the Fire Desk. Request a "Checkfire" status if a cease fire of 30 minutes or more is anticipated.

8-6. Hand Grenades

- a. Fragmentary hand grenades will normally be thrown at Range 24 (Grenade Qualification Range) and Ranges 17, 27, 42B, 52, 54, and 55B in designated grenade bunkers. **Only one grenade will be thrown at a time.**
- b. An immediate check fire will be initiated for a dud/misfired hand grenade. The Fire Desk and EOD will be notified. The range will stay in check fire status until the dud/misfire is cleared by EOD.
- c. All personnel within 150 meters of the target area must wear ACH and IBA with plates (or equivalent).
- d. OIC's and RSO's will be briefed and sign statement that they have read and understand the procedures outlined on the Hand Grenade briefing form for Range 24.

WARNING

Do not tape a hand grenade safety lever or safety pin. The safety pin can come off with the tape, causing the grenade to explode.

Never carry the grenades suspended by the safety pull ring or safety lever.

Grenade safety devices are designed so that the grenade remains safe in storage. Do not bend, tamper, modify or otherwise alter a hand grenade safety pin or safety lever.

During training missions, do not carry hand grenades in ammunition pouches during airborne operations. Carry the grenades in the main body of the rucksack instead. Refer to FM 3-23.30, chapter 3.

8-7. 40MM Grenades - M203/M320/M79/MK19/MK47

- a. Due to the high dud rate, M203/M320 and M79 (HE/HEDP) grenades can only be fired on Ranges 26A and 26B. The range OIC and RSO will ensure targets closer than 130 meters will NOT be engaged with 40mm HE/HEDP ammunition.
- b. M203/M320/M79 Training Practice (TP) grenades can be fired into all impact areas, provided SDZ Diagrams constructed in accordance with DA PAM 385-63 are submitted to Range Branch at least 16 days prior to the date of use.
- c. MK 19/MK47 HE/HEDP/TP grenades may be fired on Range 25A and Range 47. Targets will be engaged only at ranges greater than 310 meters with HE ammunition. Comply with firing restrictions in DA Pam 385-63, Chapter 5.

8-8. Light Anti-Armor Weapons

- a. Range 1 is a light anti-armor qualification range for the 9mm and 35 mm sub caliber devices and Claymore Mine Range.
- b. Range 25A is a light anti-armor familiarization, AT-4, M72 LAW, MK19/MK47, and SMAW-D sub-caliber and HE range.
- c. Light anti-armor weapons may be fired into the North Impact Areas provided the Range Packet contains a SDZ/WDZ Diagram constructed in accordance with DA PAM 385-63 and is approved by Range Safety Office NLT 10 days prior (16 days prior to firing date if target operator is required).
- d. AT-4 round(s) that misfire must be reported to Range Branch so EOD can be contacted to dispose of the round(s). **Misfired AT-4 rounds cannot be transported or turned in to the ASP.**

8-9. Armor Piercing Incendiary

No armor-piercing incendiary (API) will be fired on ranges that employ mechanical target mechanisms. API is restricted to hard targets in the North Impact Area.

Chapter 9

Anti-Tank Guided Missiles

9-1. Purpose

This Chapter establishes range safety procedures for firing anti-tank weapons at Fort Campbell.

9-2. General

- a. Report all accidents and incidents to the Fire Desk immediately, but no later than 30 minutes.
- b. Range support equipment will be picked up and returned during normal operating hours. Equipment may be signed for and picked up one working day (24 hours) in advance (Monday-Friday). Equipment will be turned in within 24 hours of completion or the next normal working day (Monday-Friday).
- c. The range communications net will be monitored continuously. In the event of a communications breakdown between firing range/position and the Fire Desk, a mandatory cease fire will be initiated until communications are reestablished. Communications checks will be made with the Fire Desk once every hour. Incoming or outgoing calls may be considered an effective communications check in lieu of calling the Fire Desk during any one-hour period.

9-3. Responsibilities

a. Commanders. The firing unit commander is responsible for safety during all phases of a firing exercise under their control. Commanders (battalion level and above) of units equipped with anti-tank guided missile systems, will establish and maintain a safety training and certification program. As part of this program, battalion commanders will submit a Certification memorandum listing individuals in their respective units certified to perform the duties of OIC and RSO to Range Branch. This memorandum will be updated as required.

b. Range OIC and RSO. For all Anti-Tank Guided Missile ranges firing TP/Inert or HE, the required Range OIC will be at the rank of SFC or above. The RSO will be at the rank of SSG or above. Range OICs and RSOs will ensure--

(1) Command certified safety personnel in accordance with AR/DA PAM 385-63 determine safety limits for firing data and develop Surface Danger Zone (SDZ) Diagram(s) to be approved by Range Branch Safety NLT 10 days prior (16 days prior if target operator is required) to firing.

(2) All target locations are within prescribed limits of fire.

(3) A current copy of AR/DA PAM 385-63, CAM Regulation 700-2, the appropriate FMs/TMs pertaining to the weapon(s) being fired, a risk management worksheet for the specific range operation, and this regulation are on hand at the Range.

(4) A Certification memorandum is on file at Range Safety (with correct information for the OIC and RSO and verifying that they are command safety certified) and signed by their battalion commander. An example memorandum is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>).

(5) Personnel on the range have been briefed on firing safety, operation of the firing position, misfire/hang fire procedures, and ammunition handling.

(6) All personnel have approved hearing protection prior to firing, and that they wear them during firing.

(7) A qualified medic with a medical kit is present.

(8) A scarlet streamer (flag) is flown when firing. A red flashing warning light will be positioned in the vicinity of the guns or firing points after sunset.

(9) All road guards with communication are properly instructed in their duties and/or appropriate barriers with signs are posted to cover all normal approaches to a hot firing point or range (refer to para 3-15).

(10) Dual means of communications are established and maintained with the Firing Desk.

(11) ACH and IBA with plates (or equivalent) are worn by all personnel within 50 meters of the firing line.

9-4. Hellfire Missiles

Hellfire missiles require positive controls because of the size of the surface danger zone requirements. Prior to firing Hellfire missiles, firing procedures will be developed and published as a memorandum of instruction (MOI) by the firing unit. Hellfire missiles can be fired from designated firing points in the vicinity of Range 40 into the North Impact Area provided there is adherence to the safety precautions outlined in AR 385-63, DA PAM 385-63, and current Safety of Use Messages (SOUM). Note that firing of Hellfire Missiles will cause a great number of ranges around the North/South Impact Areas to close and not be occupied.

9-5. TOW Missiles

The TOW (INERT) can be fired into the North Impact Area on Ranges 28 TI, 42 TI, 46 TI and 55. TOW (HE) cannot be fired on Fort Campbell because of Area H SDZ restrictions.

9-6. Javelin Missiles

Javelin missiles can be fired on Ranges 41, 55 and OP 10 in the North/South Impact Area provided there is adherence to the safety precautions outlined in DA PAM 385-63.

9-7. Ammunition Care, Handling, and Safety

- a. Safety precautions contained in DA PAM 385-64 (Ammunition and Explosive Safety Standards), AR 190-11 (Physical Security of Ammunition), CAM REG 190-1, and CAM REG 700-2 will apply at all FPs/ranges.
- b. Two ten pound BC or ABC serviceable fire extinguishers will be present at the ammunition point at all times.
- c. Field ASPs must be part of the range packet, and must be inspected by QASAS before establishing.

9-8. Additional Safety Restrictions and Instructions

- a. Units will submit Surface Danger Zone (SDZ) Diagrams to Range Safety for approval not later than 10 days prior (16 days prior if target operator is required) to firing date.
- b. Erratic rounds.
 - (1) **Whenever a round is fired or reported impacting outside the SDZ or an established impact area, All Units will be palced under a Mandatory check Fire Freeze.** Units will check firing immediately, remove all personnel from their weapons, and ensure the aiming point for the weapon is not changed.
 - (2) Units will immediately notify the Fire Desk of the reason for the check fire freeze.
 - (3) Check Fire Freeze will be investigated by Range Safety Personnel and Command Safety Personnel.

9-9. Special Instructions

- a. Using unit(s) will police the range of all debris and wire and request an inspection by Range Operations at the end of each firing day.
- b. **DO NOT HANDLE Unexploded Ordnance (UXO)!**

Chapter 10 Mortars

10-1. Responsibilities

- a. Commanders. The mortar unit commander/platoon leader is responsible for safety during all phases of a firing exercise under his control. Commanders, battalion level and above of units containing mortar platoons, will establish and maintain a safety training and certification program. As part of this program, battalion commanders will submit a Certification memorandum listing individuals in their respective units certified to perform the duties of OIC and RSO to Range Safety. This memorandum will be updated as required. An example memorandum is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>)
- b. The OIC and RSO will ensure --
 - (1) Command certified safety personnel determine safety limits for firing data and develop Surface Danger Zone Diagrams in accordance with AR/DA PAM 385-63. After the first mission is fired, the safety data and the safety diagrams will be updated to reflect current meteorological and registration data.
 - (2) All firing data is within prescribed safety limits prior to transmission to the firing sections and record all minimum and maximum quadrant elevations, all right and left deflection limits, and all minimum fuze settings.
 - (3) Current copies of AR/DA PAM 385-63, CAM Regulation 700-2, a risk management worksheet for a specific range operation, and this regulation are on hand at the firing site. Also ensure that the appropriate FMs/TMs pertaining to the weapon(s) being fired are on hand.
 - (4) Names of the OIC and RSO are on the Certification memorandum on file at Range Safety.
 - (5) Personnel on the range have been briefed on firing safety, operation of the firing position, misfire/hang fire procedures, and ammunition handling.
 - (6) All personnel have approved hearing protection on prior to firing and that they wear them during firing.
 - (7) A MOS trained medic with aid bag complete and FLA vehicle is present when conducting live fire missions.
 - (8) A scarlet steamer (flag) is flown when firing from an OP and that red flashing warning lights are operated in the vicinity of the guns or OPs after sunset.

- (9) All road guards are properly instructed in their duties and/or appropriate barriers with signs are posted to cover all normal approaches to a "HOT" OP and/or firing positions (refer to para 3-15).
- (10) Dual means of communications are established and maintained with the Fire Desk.
- (11) ACH and IBA with plates (or equivalent) are worn by all personnel within 50 meters of the firing line.
- (12) The Fire Desk will issue a "HOT" time and initials before conducting any live fire missions.

10-2. Mortar Live Fire Safety Instructions

- a. Refer to AR/DA PAM 385-63 for information and requirements for firing overhead of personnel. Army units must use ammunition cleared for overhead fire and obtain approval from the Installation Commander to fire over the heads of protected troops. Firing instructions published in TM 43-0001-28 and restrictions and suspensions published in TB 9-1300-385-1 and TB 9-1300385-2 for rounds being fired will be followed.
- b. The first fire mission fired from a new position will always be either an adjust fire or registration mission to the approximate center of the sector. The OIC of firing unit must receive an observer's report that the initial round has been observed safe in the desired impact area prior to continuing the mission.
- c. An immediate check fire will be imposed when an aircraft is spotted approaching the azimuth of fire.
- d. Units will report violations of their airspace to the Fire Desk to include type of aircraft, tail number, direction of flight, and any other available information.
- e. Unit OIC and RSO will supervise the proper handling, storage, firing, and turning in of ammunition.
- f. An area within the South Impact Area is suspected to be contaminated with depleted uranium (DU) expended from the Davy Crockett weapon system training rounds years ago. High Explosive (HE) rounds will not be fired into this area. Refer to map located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>) indicating where HE rounds will not be fired.
- g. Refer to map located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>) where White Phosphorus will not be fired.

10-3. Ammunition Care, Handling, and Safety

- a. Safety precautions contained in FM 3-22-90, DA PAM 385-64 (Ammunition and Explosive Safety Standards), AR 190-11 (Physical Security of Ammunition), CAM REG 190-1, CAM Regulation 700-2, and AR 710-2 for ammunition accountability will apply at all OPs and FPs.
- b. Excess propellant will be placed in a plastic lined box and stored 25 meters to the rear of each gun. This box must have a closeable lid. The excess propellant box may be located at the mortar position while making propellant adjustments from a given mission. The box will remain closed except when placing excess propellant inside. When all rounds have been prepared, the box containing the excess propellant will be moved to the storage location 25 meters to the rear of each gun.
- c. Unpack only the number of rounds needed to complete the next mission. During propellant removal procedures, exercise extreme care to prevent the striker from being driven into the ignition cartridge. This will result in premature ignition of the propellant. At no time should any device be used to strike the round during this operation.
- d. Two serviceable ten pound BC or ABC fire extinguishers will be present at the ammunition point at all times.

10-4. Powder Burning

- a. Unused powder increments should be burned daily in accordance with the applicable FM.
- b. For restrictions concerning burn index, refer to table 3-2.
- c. Firefighting equipment will be on hand.
- d. Supplemental charges will not be burned. These charges, which are removed whenever VT fuses are used, will be returned to the ASP.
- e. Charges will never be burnt on asphalt roads

10-5. Additional Safety Restrictions and Instructions

- a. Units will submit Surface Danger Zone (SDZ) Diagrams to Range Safety for approval not later than 10 days prior to the initial date of firing. SDZ Diagrams will be drawn on overlays using 1:25,000 scale maps as appropriate.
- b. Firing units are responsible for ensuring that all projectiles impact within the SDZ Diagram on file at Range Safety.
- c. Erratic rounds.

(1) **Whenever a round is Observed or Reported impacting outside an established SDZ/Impact Area, or not observed, The OIC or RSO will place All Units under a Mandatory Check Fire Freeze.** Units will cease

firing immediately, remove all personnel from their indirect fire weapons, and ensure the data set on the weapons is not changed.

(2) The unit observing or reporting the burst will immediately visit the site (outside of IMPACT AREA) to determine if there are any casualties. If so, initiate MEDEVAC procedures. Each unit OIC/RSO will verify the data set on the last weapon(s) fired and record the information found in Chapter 3.

(3) The unit OIC will immediately notify the Fire Desk of the reason for the check fire freeze. Once imposed, Range Safety is the only agency that can lift a check fire freeze.

10-6. Firing Points and Observation Points

- a. Chapter 11 contains a listing of Observation Points which can be used to fire mortars.
- b. Coordinate directly with Range Safety or Range Operations Specialist for additional ranges which support mortar fire.
- c. Units will only use certified personnel and appropriate equipment to perform the duties of forward observers when mortar rounds are fired. Responsibilities of personnel assigned as forward observers include:
 - (1) Ensure that FM communication is established between the Firing Point and the OP.
 - (2) Maintaining communications with the element they are supporting and the Fire Desk.
 - (3) Engage only targets they are able to observe. Means of observation must be by manned observation.
 - (4) Plot all Fire Support Coordination Measures for the unit they are supporting on a map.
 - (5) Engage only targets contained within authorized safety limits.
 - (6) Call "CHECK FIRE" and report any rounds unobserved or rounds observed out of target area. If a round impacts out of approved SDZ, the OIC will call "CHECK FIRE FREEZE" and contact the Fire Desk immediately.
 - (7) Report location of DUDs to Fire Desk.
 - (8) Plot all targets on a map and within the Lightweight Handheld Mortar Ballistic Computer (LHMBC).
- d. Observation points will be opened by a Non-Commissioned Officer (Sergeant, E5 or above) certified observer. Observers utilizing laser devices must be a certified forward observer in the rank of Staff Sergeant (E6) or above.

10-7. Special Instructions

- a. Using unit(s) will police all mortar firing points and request an inspection by Range Operations before moving from an assigned mortar firing point.
- b. **DO NOT HANDLE DUDS! Misfired mortar ammunition is returned to the ASP.**

10-8. Mortar Full Range Training Cartridge (FRTC)

- a. Units may fire the full range training cartridges (FRTC) from mortars into the North and South Impact Areas. FRTC Rounds may also be fired into areas outside the established impact area (OP 13) with approval of Range Safety.
- b. All rounds fired must be accounted for and EOD notified for all duds. Range Operations and EOD will clear the areas outside the impact areas (where the FRTC has been fired) prior to use by another firing unit.
- c. SDZ Diagrams must be developed and included in the Range Packet.

Chapter 11 Artillery

11-1. Purpose

This Chapter defines requirements and procedures for firing 105mm, 155mm howitzers, and Multiple Launch Rocket System (MLRS).

11-2. General

Report all accidents and incidents to Range Branch immediately when able, but no later than 30 minutes.

11-3. Responsibilities

a. **Battalion Commanders:** Submit a Certification memorandum listing individuals in their respective units certified to perform the duties of OIC and RSO to Range Safety in accordance with this Chapter, AR and DA PAM 385-63. An example memorandum is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>).

b. **The OIC:**

- (1) Be present on the Firing Point while conducting Live Fire.

- (2) Brief the RSO, FDO, Platoon Leaders, Platoon Sergeant, Forward Observer, and Howitzer Section Chief.
- (3) Develop and ensure that the approved range packet signed by Range Safety is on the Firing Point.
- (4) Attend a de-confliction meeting on air space with Range Safety and Unmanned Aerial Systems (UAS) units, in order to comply with the SOP. Ensure Restricted Operating Zone (ROZ) is established and approved at all firing locations. These facilitate the maneuver of aircraft on Fort Campbell. Active ROZs will not be penetrated without positive two-way communication and permission from the ROZ controlling/establishing unit. Restricted Operation Zone is an aircraft control measure which identifies hazards to flight and restricts operations within the hazard area. The firing battery must compute a quadrant elevation (QE) that will place the projectile at 700 ft AGL prior to leaving the ROZ.
 - (a) ROZ A supports low angle firing: ROZ A is a 1,000m circle based off of center battery. ROZ A will be a QE > 267 mils.
 - (b) ROZ B supports high angle firing. ROZ B is a 500m circle based off center battery. ROZ B will be a QE > 800 mils.
 - (c) MLRS will establish ROZ A and have an approved range packet to account for Air Hazard Area and Target Hazard Area.
 - (5) Ensure firing units do not occupy within 1000m south of Jordan Springs Road.
 - (6) FA and TUAS units training at Fort Campbell will adhere to a fixed training schedule for TUAS launch and recovery and field artillery firing when TALS ROZs and field artillery SDZs are in conflict. When this conflict exists, TUAS will have priority for 30 minutes after each even numbered hour for launch and recovery. Example 0800-0830, 1000-1030, etc. Artillery units will then have priority for the hour for the other 90 minutes in between even numbered hours for uninterrupted firing . Example 0831-0959, 1031-1159, etc.
- c. RSO duties include, but are not limited to;**
 - (1) Establishing an overall safety system within the firing position.
 - (2) Ensuring personnel required to perform safety checks are competent, properly briefed on their duties, and command certified by their unit.
 - (3) Enforcing compliance with this regulation.
 - (4) Assisting OIC in his duties.
 - (5) Before departing for the range, the RSO and safety personnel should understand, comply with and have available the following references:
 - (a) AR/DA Pam 385-63.
 - (b) CAM Reg 385-5, 700-2, and 95-1.
 - (c) Any applicable FMs (i.e., 6-40, 6-50, 3-09.60 and 3-09.70) and TMs for the weapon system being used.
 - (6) The RSO will ensure the following equipment is at the firing location.
 - (a) Applicable TFTs.
 - (b) Properly functioning AFATDS with a secondary data check capability. This includes all Fort Campbell Fire Support Coordination Measures and Airspace Control Measures contained in Appendix H of this regulation.
 - (c) Applicable GSTs.
 - (d) Current 1:25,000 or 1:50,000 map of the area.
 - (e) Two properly functioning and declinated aiming circles or Gun Laying and Positioning System (GLPS).
 - (f) Serviceable gunner's quadrant.
 - (g) Two means of FM communication.
 - (7) Before firing, the RSO will conduct the following safety checks:
 - (a) Verify left and right limits and minimum and maximum range for the firing battery.
 - (b) Prepare the safety diagram. The RSO will possess all Range Safety Cards, safety diagrams, and safety Ts applicable to the Firing Point and/or firing position for which he 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 azimuth of lay used to compute the safety diagram and lay the howitzers as dictated by the FDC.
 - (f) Verify the FDC has the Safety card/diagram and all no fire areas are plotted on the firing chart and map.
 - (g) Verify minimum quadrant elevation (min QE) determined by the executive officer/firing platoon commander.
 - (h) 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.
 - (i) Ensure that firing does not commence until rounds can be observed.
 - (j) Brief Forward Observers to report any round that lands or bursts outside of the target box immediately to firing battery; firing battery reports immediately to Range Branch.

d. Platoon Leader and Platoon Sergeant duties;

- (1) Supervise the general safety practices of the firing platoon.
- (2) Ensure that their personnel are competent in performance of their duties during all live fire training.

e. Section Chief duties;

- (1) Safety checks required within his section to include checks of the weapon and ammunition.
- (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 safety T.
 - (b) Command "CHECKFIRE" and cite reasons when firing data is unsafe and if he observes any unsafe conditions.
 - (c) Verify safety of weapon settings and crew actions prior to commanding "FIRE."
 - (d) Report unsafe conditions to the chain of command.
 - (e) Suspend firing until all unsafe conditions are corrected.
 - (f) Verify the ammunition to be fired is the type specified on the Safety T.

f. Fire Direction Officer duties;

- (1) Verify the safety limits from the safety diagram
- (2) Verify that all Fire Support Coordination Measures are properly plotted on the firing charts, map, or Army Battle Command System (ABCS).
- (3) Ensure only safe fire commands are transmitted to the firing sections.
- (4) Verify and apply either MET + VE or registration corrections to cannon artillery.
- (5) The Fire Direction Officer may be either a commissioned or noncommissioned officer.

g. Forward Observer duties;

- (1) Units will only use certified personnel and appropriate equipment to perform the duties of forward observers when artillery rounds are fired. Responsibilities of personnel assigned as forward observers include:
 - (a) Ensure that FM communication is established between the Firing Point and the OP.
 - (b) Maintaining communications with the element they are supporting and the Fire Desk.
 - (c) Engage only targets they are able to observe. Means of observation must be by manned observation or by equipment aided (to include radar).
 - (d) Plot all Fire Support Coordination Measures for the unit they are supporting on a map.
 - (e) Engage only targets contained within authorized safety limits.
 - (f) Call "CHECK FIRE FREEZE" and report any rounds unobserved or rounds observed out of target area. If a round impacts out of surface danger zone, the FDO/OIC will contact the Fire Desk immediately.
 - (g) Report location of DUDs to FDC who will report them to the Fire Desk.
 - (h) Plot all targets on his map or equivalent ABCS prior to calling for fire.
 - (i) Observation points will be opened by a Non-Commissioned Officer (Sergeant, E5 or above) certified observer. Observers utilizing laser devices must be a certified forward observer in the rank of Staff Sergeant (E6) or above.

h. Radar Section Chief duties;

- (1) Radars can be used to facilitate target engagement in areas that cannot be observed by forward observers and/or aircraft.
- (2) If radar is being established as primary observer, radar must be in Friendly Fire Mode.
- (3) Establish directional control with survey (Improved Position and Azimuth Determining System or PADS, Modular Azimuth Position System or MAPS) of fourth-order accuracy.

11-4. Safety Restrictions and Instructions

- a. As a minimum, the following items must be present at each artillery firing position:
 - (1) Fort Campbell map.
 - (2) A firing chart or ABCS.
 - (3) An approved SDZ Diagram (if applicable).
 - (4) GLPS or two properly declinated aiming circles.
 - (5) Two means of FM communication.
 - (6) Combat Lifesaver or equivalent and dedicated casualty evacuation vehicle with driver.
- b. Upon occupying a new position, a check round must be fired and observed exploding safely in the impact area prior to additional fire missions. This check round may be the initial round of a registration or adjust fire mission.

c. All artillery indirect firing operations conducted on Fort Campbell will be conducted using ammunition cleared for overhead fire. The term "ammunition" includes the projectile, fuze, and (for separate loading ammunition) the propelling charge.

d. Firing of Improved Conventional Ammunition (ICM) is prohibited.

e. Any soldier in the vicinity of artillery indirect fire will impose an immediate CHECK FIRE when an aircraft is spotted approaching the trajectory of fire, Area E, or entering ROZ A or ROZ B without clearance from the firing battery/unit.

f. Units will immediately report violations of their airspace to Range Branch to include the type of aircraft, tail number, direction of flight, and any other available information.

g. If illumination is used, determine the minimum and maximum charges and ranges to burst and impact for the canister. The canister must land in the Impact Area.

h. Erratic Rounds.

(1) Anyone detecting rounds impacting outside or near the boundary of the impact area will immediately report this to the Fire Desk. A follow-up report will include the information found in Chapter 3.

(2) Whenever a round is fired or reported impacting outside an established impact area, all units will be placed under a mandatory **CHECK FIRE FREEZE**. Units will cease firing immediately, remove all personnel from their indirect fire weapons, and ensure the data set on the weapon is not changed. The unit RSO will verify the data set on the last weapon(s) fired and record the information found in Chapter 3.

i.. The following information is required for ROZs (ROZ must be active prior to issuance of "HOT" status):

(1) The Firing Point Identifier (The FP Identifier will be the closest Known Firing Point Identifier).

(2) The ROZ type (A or B).

(3) Center of battery/firing unit expressed in an 8 digit grid.

(4) The Azimuth of Fire in degrees magnetic.

(5) The ROZ frequency. The ground unit will determine the ROZ frequency. The ground and air units will communicate on single channel/plaintext.

j. A designated location within the South Impact Area is suspected to be contaminated with depleted uranium (DU) expended from the Davy Crockett weapon system training rounds fired years ago. High Explosive (HE) rounds will not be fired into this area. Refer to map is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>). where White Phosphorus will not be fired.

11-5. Cannon Units Without Automated Fire Control System (AFCS)

a. General.

(1) Area E of artillery weapons surface danger zone is a primary danger and will not be occupied. This area extends 550 meters for 105mm and 725 for 155mm to the direct front of the weapon, but both have been reduced to 400 meters by the Installation Range Program Manager to facilitate more maneuverability and close firing in support of collective training events on many Fort Campbell ranges. Units training and aircraft flying/landing in front of artillery positions will not violate this danger area regardless of approval to enter ROZ A or ROZ B.

(2) All units computing safety data for firing 105mm or 155mm outside of useable target area (Table 11-1) will submit a SDZ diagram(s) to Range Safety for approval not later than 16 days prior to the date of firing. SDZ diagrams will be drawn on overlays using a 1:25,000 or 1:50,000 scale map.

(3) Units firing from known firing points must ensure that all artillery pieces are located within a 200 meter radius of the firing point coordinates.

(4) Each unit is responsible for ensuring that no projectile and shrapnel impact in the No Fire Areas listed in Appendix J.

b. Firing Point Safety. These steps apply specifically to known firing points listed in Table 11-3.

(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) For units without a GLPS, verify Azimuth of Lay (AOL) by doing the following:

(a) Use a second aiming circle.

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

(c) Use any approved method (FM 3-09.50) to orientate the safety circle other than the one used to orient the lay circle.

(d) Allow +/- 10 mils between the lay circle and the safety circle.

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

(4) Units must fire a MET + VE check round or conduct a registration. 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.

(5) The Officer/NCO responsible for the operation of the FDC will have the following on his firing charts:

(a) Safety limits specified by the Range Safety Card drawn IAW FM 3-09.40.

(b) Lateral azimuth limits.

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

(d) Any permanent or temporary Fire Support Coordination measures.

(6) To compute or verify safety data do the following:

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

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

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

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

(9) 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.

(10) Obtain the following information from the Fort Campbell 1:50,000 Range Map:

(a) Altitude of the firing position.

(b) Maximum altitude at minimum range.

(c) Minimum altitude at maximum range.

(11) Use information contained in the approved Range packet to obtain MIN QE for the Firing point Method.

(12) 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.

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

c. Training Area Safety. This method enables firing unit to fire from positions other than known firing points (table 11-3) and within scheduled Training Areas. Units must comply with requirements in Chapter 21, and obtain a map of training area from ITAM.

(1) Training Area safety will be conducted within the useable target area (tick marks grids listed within Figure 11-1). All other requirements as listed in the Firing Point Safety method apply.

(2) FDC Officer / NCO will determine the safety box within the useable target area (Table 11-1).

d. All artillery units conducting indirect live fire exercises will fire at a quadrant greater than 267 mils (15 degrees). The purpose of this measure is to ensure that personnel are not in the hazard area caused by blast overpressure and debris from the howitzers. It also reduces the occurrence of ricochets by preventing units from firing at low trajectories. This will be adhered to for all live fire exercises at Fort Campbell.

e. Additional restrictions and considerations.

(1) The grids previously listed in Table 11-1 (Useable Target Area Grids) define the target area and account for probable errors and Area A, Area B, and Area C.

(2) The following Firing Point (FP) series can fire into the North Impact Area only: FPs 41, 42, 43, and 44.

(3) The following Firing Point series can fire into the South Impact Area only: FPs 9, 11, 13, 17, 19, 20, 22, 23, 24, 25, 27, and 28.

(4) The following Firing Point series can fire into the North and South Impact Areas: FPs 30, 31, 32, 33, 34, 35, and 48.

(5) The following Training Areas (TAs) support the employment of Training Area Safety method: TAs 22, 23 (units must fire west of grid line 43), 30, 31, 32, 33, 34, 41, 42A, 43A, 44B, and 48.

(6) Only 105mm artillery units with AFCS can use the Training Area Method for firing into the South Impact Area.

(7) 155mm artillery must have a SDZ diagram approved by Range Safety in order to fire into the South Impact Area. Training Area Method is not authorized for 155mm artillery firing into the South Impact Area.

11-6. Automated Fire Control System (AFCS) Capable Cannon Units

- a. Responsibilities. Commanders will adhere to responsibilities as outlined IAW para 11-2.
- b. One (1) RSO is required per one (1) Fire Direction Center (FDC), provided that all howitzers are operating under one FDC. If multiple FDCs are established multiple RSOs are required. The RSO may also 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 within the operation area/split-battery operations.
 - (b) The (FDC).
 - (c) The Platoon Operations Center (POC).
 - (2) Be command safety certified on the AFCS-Capable Unit's weapon system.
 - (3) Ensure that all safety requirements are met.
 - (4) Verify the location of the survey control point (SCP).
 - (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. Min QE will be higher of 267 mils or XO's Min QE when data is computed using the training area method.
 - (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) Communications at the howitzer location.
 - (4) Direction/Azimuth of Fire (AOF).
 - (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 FM 3-09.70.
- e. Duties of the Fire Direction Officer (FDO) in an AFCS-Capable Unit include:
 - (1) Ensuring the FDC Chief is safety certified.
 - (2) Conducting 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, shell and fuze combinations for the dry-fire verification.
 - (3) Comparing the AFCS and the Lightweight Computer unit (LCU)/battery Computer System data to ensure the computed data are within the following tolerances:
 - (a) Deflection - 2 mils
 - (b) Quadrant - 2 mils
 - (c) Fuze TI - 0.1 second
 - (d) Fuze VT - 1.0 increment
 - (4) Constructing firing charts IAW FM 6-40/ FM 3-09.40.
 - (5) Computing safety and issue Safety Ts for Shell Illumination IAW FM 6-40/ FM 3-09.40.
 - (6) Computing safety with box safety IAW FM 3-09.70.
- f. Requirements/Procedures.
 - (1) AFCS-Capable units may use the training area method or the firing point safety method to tactically occupy and fire from locations within a scheduled training area. A position area can have up to a 750 meter radius. Operations must be confined within training areas scheduled for firing.
 - (2) Ammunition requirements specific to the M109A6 Paladin units system are as follows:
 - (a) M109A6 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.
 - (3) Degraded operations are as follows:
 - (a) An operational AFCS-capable howitzer will be the laying piece.
 - (b) An aiming circle or GLPS will be used as the safety circle.

11-7. MLRS Units

a. Responsibilities.

- (1) Commanders will adhere to responsibilities as outlined in para 11-3a and FM 3-09.60 MLRS Operations.
- (2) Range OIC and RSO will adhere to responsibilities as outlined IAW paragraph 11-3.
 - (a) Develop and ensure submission of range packet IAW Chapter 3.
 - (b) Have approved range packet at firing point location.
- (3) Duties of the platoon leader/sergeant are as follows:
 - (a) Compute and prepare safety data/safety Ts as directed by the battery operations center.
 - (b) Ensure personnel understand and follow the correct procedures for conducting a live fire.
 - (c) Check the lot number of the launch pod container (LPC).
 - (d) Enforce safety policies and procedures established by DA Pam 385-63 and post regulations.
 - (e) Check to ensure launchers are properly calibrated, updated and start-up data is correct (M270 only). The

following procedures apply:

- (aa) Survey stakes must have the unit designation and date on the tag. Units will remove the stakes after calibration is completed.
 - (bb) Take care when making turns on asphalt roads to ensure the tracks do not tear up the road surface.
- (4) Duties of the launcher chief are as follows:
 - (a) Ensure that all procedures in the launcher are conducted IAW applicable technical manuals.
 - (b) Verify launcher has a valid calibration and is updated with a verified SCP.
 - (c) Verify LPC lot number and that the proper data, according to the lot number is entered.
 - (d) Receive all instructions and firing commands from the controlling FDC.
 - (e) Verify launcher-firing position within a designated firing area with PDS and PLGR or map spot.
 - (f) Check firing data to determine if the launcher is laid and safe.
 - (g) Ensure latest meteorological (MET) message is used.
 - (h) Record all missions on a launcher fire mission log (DA 7233) and provide this log to the controlling FDC after firing.

- (i) Verify all data prior to arming and firing the launcher.
- (5) Duties of the Battery Fire Direction Center personnel are as follows:
 - (a) The battery operations officer will perform the following:
 - (aa) Check the computation of safety data/safety Ts.
 - (bb) Ensure the FDC has all safety data displayed properly in the battery and platoon FDCs.
 - (aaa) Verify validity of MET and check that all launchers have valid MET, firing position and target locations.
 - (bbb) Direct the execution of all fire missions.
 - (ccc) 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 IAW AR 25-400-2.
 - (b) The controlling FDC chief will do the following:
 - (i) Ensure LCU with operational printer is present.
 - (ii) Print all incoming and outgoing messages/data.
 - (iii) Verify set up and operation of the LCU.
 - (iv) Verify all data sent to and received from the launchers is safe and correct.
 - (v) Ensure data received by the launchers is within applicable safety parameters.
 - (6) Battalion S3 will:
 - (a) Request MET support.
 - (b) Ensure valid MET is on hand and transmitted to the controlling FDC.
 - (c) Maintain communications with the Fire Desk and monitor check-in and check-out codes for firing units.
 - (d) Ensure all Safety of Use Messages are on hand prior to the live fire exercise.
 - (e) Coordinate observation post locations with Range Safety.

b. MLRS Live Firing Safety.

- (1) Approved range packet will contain the following specific information for all MLRS/HIMARS live fires:
 - (a) Specific rocket to be fired from that location (e.g., reduced Range Practice Rocket or RRPR, etc.).
 - (b) Unit, firing point, training area, dates and times for which the range packet is valid.
 - (c) Road guard requirements (number and locations).
 - (d) Firing point boundaries.
 - (e) Target area (a.k.a. Target Selection Box in FM 3-09.60) in which all rounds must be observed.
 - (f) Any additional instructions necessary to fire from that area/firing point.
- (2) Target areas are used to compute safety and construct safety Ts.

(3) Point-To-Point is the only method used for computing live fire safety for the MLRS on Fort Campbell. Safety T tolerances between check systems used to construct safety Ts for the Point-To-Point Method are + or – 5 mils for AZ or QE. *NOTE: LLM will not be stowed until the observer reports “Round Observed Safe”.

South Impact Area: Usable Target Area	North Impact Area: Usable Target Area
A. DF 37805359	A. DF 32856058
B. DF 38905427	B. DF 35606057
C. DF 39565415	C. DF 35605850
D. DF 39395351	D. DF 34935783
E. DF 39235321	E. DF 34705707
F. DF 39225276	F. DF 34255670
G. DF 39165232	G. DF 33405781
H. DF 38945194	H. DF 33405810
I. DF 38255193	I. DF 33505850
J. DF 38105273	J. DF 33395920
	K. DF 33105968
	L. DF 32956014

Table 11-1. Usable Target Areas

11-8. Direct Fire by Artillery

OP 8 is the only location approved for direct firing of artillery rounds. When firing in the Direct Fire Mode, the distance X will correspond to the range of the weapon firing CHG 7 (105mm), or CHG 7WB (155mm) at an elevation of 267 mils. Firing “Killer Junior” is also authorized IAW FM 6-50 Appendix I. Overhead fire is not authorized for artillery in the direct fire modes. The Section Chief must verify safe settings by using the gunner's quadrant or the elevation wheel to ensure that rounds are not fired below minimum or above maximum quadrant elevation and verify site pictures. An SDZ Diagram will be submitted to Range Safety not later than 10 days prior to the date of intended use. SDZ Diagrams for direct fire on OP 8 are available at Range Safety.

11-9. Ammunition Care, Handling, and Safety

a. Safety precautions contained in FM 6-50, DA PAM 385-64, AR 190-11, AR 710-2, CAM REG 190-11, and CAM Regulation 700-2 will apply at all FPs/ranges.

b. Ammunition will be placed off the ground using tarpaulins, pallets, etc., and covered for protection. Ammunition will not be removed from sealed containers any earlier than necessary to prepare it for firing. Propelling charges should not be out until the round is ready to be fired. This preparation includes inspection and maintenance.

11-10. Powder Burning

- a. For restrictions concerning burn index, refer to table 3-2.
- b. Firefighting equipment will be on hand.
- c. Only the number of personnel absolutely essential to construct the powder row will be used, but never will there be less than two for safety reasons. One will be at the rank of SSG or above.
- d. Supplemental charges will not be burned. These charges, which are removed when VT fuses are fired, will be returned to the battalion ammunition section, for turn-in to the ASP. Complete and proper documentation will accompany the turn-in.
- e. The procedures for burning powder are (IAW FM 6-50);
 - (1) Select a burning site at least 200 feet from grass and loose debris as well as personnel and equipment
 - (2) Determine the direction of the wind.
 - (3) Place charge increments in a single layer row not more than 12 inches wide.
 - (4) Arrange the row so that the powder will burn into the wind.
 - (5) Lay a train of combustible material about 15 feet long, perpendicular to, and at the downwind end of the row of charge increments. Light this train at the end farthest from the increments.
 - (6) Charges will never be burnt on asphalt roads

11-11. Firing and Observation Points.

a. **Figure 11-1** is the artillery declination station and description. Declination station is located 20 paces South of Angles Road under the tree at DF5595456446. Station is a 105mm shell casing embedded in concrete under the tree.

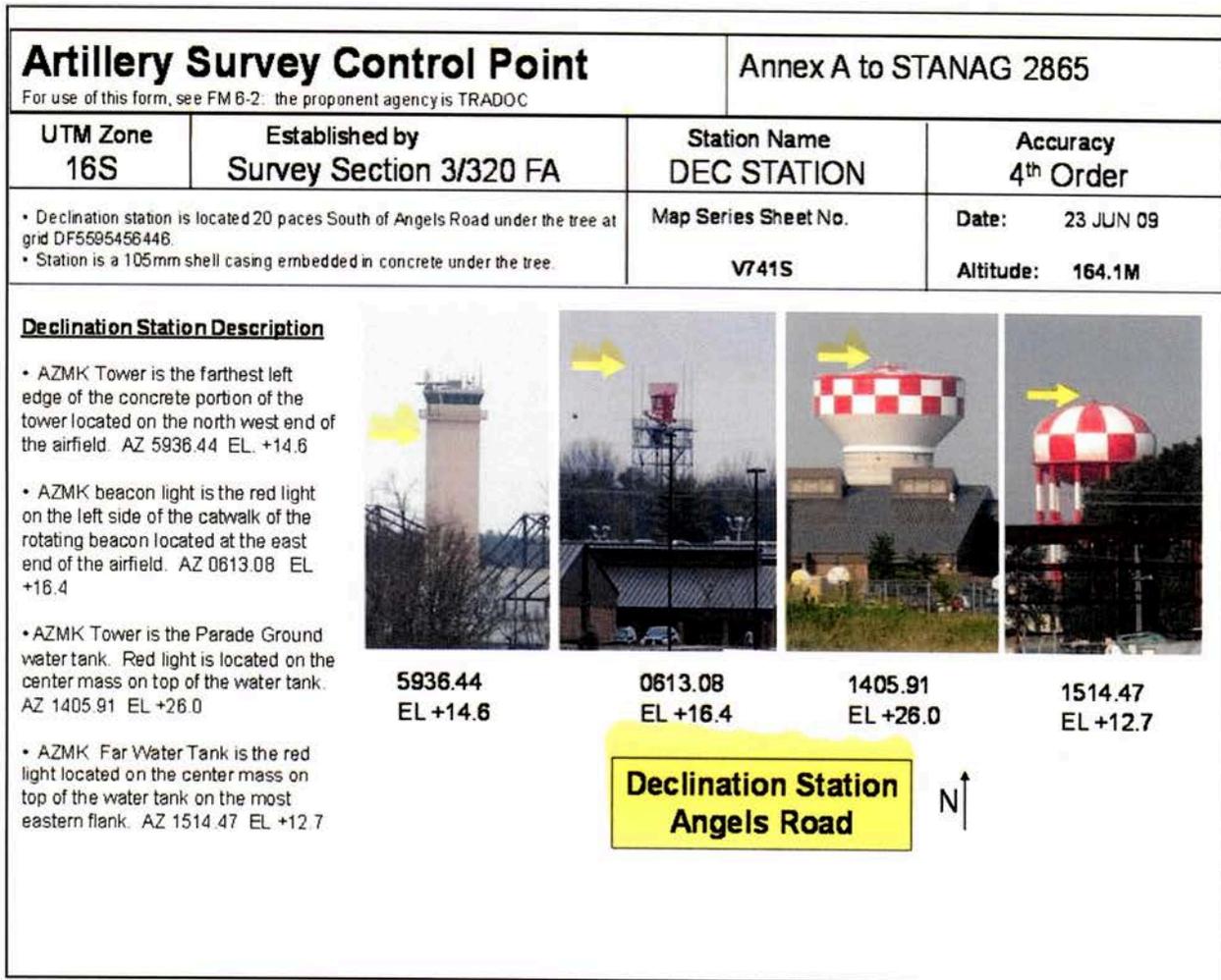


Figure 11-1. Artillery Declination Station

b. **Table 11-2** is a list of surveyed OPs and Ranges with approved laser SDZ diagrams.

OP	GRID	LFT AZ	RT AZ	DISTANCE	Description
2	DF39785531	3350-3800		0-2200	Bldg
3	DF40255537	3530-3820		0-2300	Bldg
4	DF40805410	3980-4600		0-1800	Bldg
8	DF31406232	2250-2880		0-3500	FPs
10	DF31086062	1520-1865		0-1200	Hillside
12	DF31076117	0355-1950		0-1000	Bldgs
13	DF37826023	3860-5030		0-2600	Bldg
RANGE	GRID	LFT AZ	RT AZ	DISTANCE	
28	DF37505075	5860-6080		0-5000	
29	DF31985655	31-80		200-1000	
29	DF32225665	31-80		200-1000	

29	DF32425585	31-80	200-1000
29	DF32625695	31-80	200-1000
40	DF38095086	342-346	3800-5000
40	DF38295094	340-344	3800-5000
41	DF31156218	2100-2800	0-3500
42	DF37286188	3650-4040	0-4500
46	DF38635566	5100-5700	0-5000

Table 11-2. List of Surveyed OPs and Ranges

c. Table 11-3 is a list of FP Coordinates and Height.

Firing Point	Easting	Northing	Height in Meters
9C	49932	45451	192.3
11B	52217	50905	171.9
11C	50772	51492	158.2
11D	49637	51360	169.1
13A	49728	52854	163.7
17A	48237	54037	169.5
19A	45013	51317	177.9
19B	45398	51055	177.2
19B2	45756	49951	176.3
19G	47145	49680	169.1
19H	47063	50673	173.0
19J	47154	49856	172.1
19K	47202	51575	162.1
20D	45686	47982	193.2
20E	45402	48400	184.5
20F	45950	46649	191.7
20G	45702	46592	199
22A	41851	47303	204.3
23C	42234	48900	188.1
23E	42352	48032	186.0
23F	42439	48465	185.0
23I	44260	48506	187.8
23J	43768	48321	186.3
24A	44105	50941	180.0

Table 11-3. FP Coordinates and Height

Firing Point	Easting	Northing	Height in Meters
24B	43726	51692	162.2
24C	43838	51199	171.5
24D	43988	50338	169.2
25B	45720	54455	171.2
25C	45537	53816	171.3
25D	45757	53263	160.6
25E	44066	54309	171.0
25F	44147	54472	168.0
25G	44050	53789	174.4
25H	45250	54139	174.1
25J	44564	53829	175.1
25L	44257	52946	169.4
25M	43873	53208	173.9
25N	43465	52908	176.5

25O	44678	53270	172.6
27D	42547	54828	169.3
27Q2	42544	53296	175.9
27U	42539	53571	177.9
27V	42448	54030	172.0
27X	41926	54016	175.8
28A	42305	50691	182.3
28B	41868	50592	179.5
28C	42943	50594	178.4
28D	43091	51290	176.6
30A1	40698	50283	180.7
30C	40342	50399	183.2
30E	39469	50777	188.4
30F	39407	49629	181.4
31A	42137	49124	177.4
31B	39670	48389	187.2
31C	40886	48821	155.4
31D	38607	48212	190.2
32A	38482	46678	189.7
32B	37591	46379	197.2
32C	37213	46699	199.5
32D	38754	46109	201.5
32F	40117	45739	201.1
32G	40637	46459	209.6
32H	39308	47713	195.8
32J	39083	47746	187.4
32J	39083	47746	187.4
33A	35478	48278	198.6
33C	36953	48202	192.9
34H	36349	48616	187.3
34J	37540	48929	185.9
35D	35687	50325	198.8
35E	36026	50412	200.7
41A	38915	60831	172.2
41B	39024	60621	173.8
41D	39136	61008	175.4
41E	38950	60155	180.9
42A	36315	62856	174.0
42B	36987	62549	173.3

Table 11-3 (continued). FP Coordinates and Height

<u>Firing Point</u>	<u>Easting</u>	<u>Northing</u>	<u>Height in Meters</u>
42D	37263	62421	177.4
42E	38853	61805	174.3
42F	36275	62675	172.0
42G	37542	62373	176.5
42H	36344	63032	170.4
42K	38174	61354	171.3
42M	37025	61985	172.8
43A	35693	63731	170.7
43B	36120	63270	168.0
43J	34889	64402	162.2
44A	29180	61073	210.6
44C	29260	62529	207.8
44D	29807	61262	204.4

44E	29072	62383	205.8
44F	29705	62661	205.9
44G	29951	62909	201.2
48D	33620	51259	190.2
48J	33107	51285	188.0
48N	32877	51274	192.4

Table 11-3 (continued). FP Coordinates and Height

11-12. Firing White Phosphorus in Wetlands

Range Safety will issue maps of the North and South Impact Areas with description of wet lands where white phosphorus can and cannot be fired. The map is color coded with green as the wet land, blue is a 100 meter no fire buffer zone for 60mm and 81mm mortars, the red is a 370 meter no fire buffer zone for 120mm mortars, 105mm and 155mm artillery. Reference the map that is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>).

Chapter 12

Armor

12-1. Purpose

This Chapter establishes safe firing procedures for Tank and Bradley Fighting Vehicle (BFV) gunnery.

12-2. General

- a. Report all accidents and incidents to the Fire Desk immediately, but no later than 30 minutes.
- b. Armor units, battalion or larger, will maintain a safety training and certification program. As part of this program, battalion commanders will submit a memorandum listing individuals in their respective units certified to perform the duties of range OIC and RSO to Range Safety. This memorandum will be updated as required. An example memo is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>).
- c. Units will continuously monitor the Fire Desk communication nets. Should communications be lost, a mandatory cease (check) fire will be initiated by the firing unit until communications are reestablished with the Fire Desk.
- d. Bridges on Fort Campbell are not structurally capable of supporting M1 tanks. Many bridge sites will not support light track vehicles. Armored/mechanized units are to coordinate with Range Safety for route clearance.

12-3. Tank/Bradley Gunnery

- a. Ranges 28 and 46 are the only ranges on Fort Campbell suitable for tank gunnery.
- B. High velocity armor piercing (Armor-Piercing Fin-Stabilized Discarding Sabot Tracer (APFSDS-T) and Armor-Piercing Discarding Sabot Tracer (APDS-T)) rounds with windshields will not be fired in training. High velocity rounds with reduced range capability, such as Target Practice Discarding Sabot Tracer (TPDS-T), may be fired. On Range 46, these rounds will be restricted to quadrant elevations of one degree or less.
- c. Firing over the head of troops from any weapon system on a tank is prohibited.
- d. Mechanical stops that limit elevation or traverse are not a complete precaution. Close safety supervision is mandatory.
- e. The use of manned tanks as targets is prohibited.
- f. Vehicles will fly the appropriate flag, or during the night phase, display a light of the appropriate color for the firing status of each vehicle on the range.
- g. Scorers will proceed with their duties ONLY UPON THE ORDERS OF THE OIC and AFTER the RSO has assured the OIC that it is safe to do so.
- h. During actual firing of the 105mm or 120mm main gun, the RSO will ensure that the elevation does not exceed +5 degrees and that the gun is laid on a deflection that is safe.
- i. Indirect fire techniques are not permitted on this installation at any time.
- j. During night firing, guides equipped with appropriate light devices will be used to assist vehicular movement.
- k. Only non-dud producing projectiles will be fired on Ranges 28 and 46.
- l. Radio communication between the RSO and the Tank Commander (TC) will be maintained during the entire time a tank is firing on the range.

- m. The RSO will maintain radio communication with the OIC to provide for immediate cease fire capability. This will be on a frequency other than the TC/RSO net.
- n. A mandatory cease fire will be initiated during any communications failure, and it will remain in effect until communications are restored.
- o. Safety personnel will be the only individuals from which “safe” and “gun clear” will be accepted. No personnel will remain down range behind the target berms while firing.
- p. Each crew will be briefed by the RSO on safety procedures prior to entering any live firing tank gunnery course.
- q. Firing will be confined to that lane in which a tank is positioned on the firing line. Firing across target lanes is not allowed.

12-4. Range Safety Officer’s Requirements for Tank/Bradley Firing

a. Before departure to the range, READ AND UNDERSTAND DA PAM 385-63, as well as pertinent parts of CAM Regulation 700-2, the appropriate manuals of the weapon systems to be fired, and this regulation. These references will be on the range at all times.

b. Before firing:

(1) Check each vehicle (tank) log book for bore scope and pullover gauge data. Data must indicate that an inspection was conducted within 90 days of the firing date and have sufficient tube life remaining to complete the planned firing. Recoil exercises must have been conducted within 6 months on all cannons which have not been fired.

(2) Brief the TCs, and crews concerning the range safety procedures for range firing. The briefing will include, but may not be limited to, the following:

(a) Range limits. The left and right limits should be pointed out to the crews while standing at each firing point.

(b) Loading and clearing procedures. Explain when, where, and how.

(c) Vehicle movement procedures. Discuss all vehicle movements prior to entering the course, while on the course, and upon returning to the parking area.

(d) Night operations. Ensure that personnel have been briefed that special precautions will be enforced.

(e) Lost communications procedures. CEASE FIRE and stop in place until positive communications are rendered.

(f) Other items as the Range Safety Officer deems applicable.

(3) Post the road guards and conduct a visual search of the danger area on each side of the SDZ.

(4) Inspect the ammunition point to ensure compliance with CAM Regulation 700-2.

(5) Check all communication nets to ensure that positive two-way communication links exist between your range and Fire Desk, between the range and each tank, and between the control officer and the firing tank commander. Tank intercom systems will also be checked and must work prior to firing.

(6) Occupy the range with the Fire Desk and request a “HOT” status.

(7) Raise the range flag.

c. During firing:

(1) Control the vehicle and its crew up to the firing line and then turn them over to the control officer for firing on the course.

(2) Control the vehicle weapons clearing activity at the baseline.

(3) Monitor the firing activity.

d. After firing is completed:

(1) Ensure all vehicles are clear of ammunition prior to being released from the range.

(2) Prepare all unexpended ammunition, expended brass, and casings for turn in.

(3) Request to close the range and give a closing report to the Fire Desk.

(4) Lower the range flag.

(5) Conduct a thorough police of the range and request an inspection by Range Branch.

Chapter 13 Aerial Gunnery

13-1. Purpose

This Chapter establishes range safety procedures for conducting aerial gunnery at Fort Campbell.

13-2. Scope

In addition to AR/DA PAM 385-63, this Chapter establishes range procedures and safety criteria for firing live ammunition from helicopter armament systems and subsystems for training. It provides check lists, safety procedures, and range operating procedures for conducting helicopter gunnery.

13-3. General

- a. Report all accidents and incidents to the Fire Desk immediately, but not later than 30 minutes.
- b. For use of laser range finders/target designators, refer to Chapter 19 of this regulation.
- c. Range Branch will be notified immediately should any ordnance impact outside of the target area or limits of fire.
- d. Rearming may be accomplished outside the impact areas provided the following restrictions are observed:
 - (1) Aircraft must be pointed toward the nearest impact area.
 - (2) Aircraft must be within 2 kilometers of the impact area.
 - (3) The area between the weapon system(s) and the impact area must not include any trafficable roads unless they are cordoned/blocked and guarded by the using unit.
 - (4) The rearming area will be approved by Range Safety prior to the rearming exercise.
 - (5) All ammunition must be stored in a designated holding area.
 - (6) Loading of ammunition aboard the aircraft will be accomplished at the rearming area. Only ammunition required to load the aircraft will be brought from the holding area to the rearming area. Handling, loading, and unloading of ammunition will only be done by trained personnel.
- e. Area overlays and firing range area overlays will be submitted to Range Safety not later than 16 days prior to occupation of a range if using a target operated range. Area overlays will depict the following:
 - (1) Ammunition holding area.
 - (2) Harmonization/test fire point.
 - (3) Range traffic patterns.
 - (4) Rearming areas.
 - (5) Sequence of firing events.
 - (6) VIP parking/landing pad.
 - (7) Medic/crash rescue location and method of marking.
 - (8) Range OIC location.
- f. WZ diagram will be submitted to Range Safety not later than 16 days prior to the date of intended use. Diagrams will be constructed in accordance with requirements outlined in DA PAM 385-63 and applicable SOUMs.

13-4. Commanders

The aviation unit commander is responsible for safety during all phases of a firing exercise. This is addressed in CAM Reg 95-1 and Chapter 23 of this regulation. Commanders of aviation units, battalion level and above will establish and maintain a safety training and certification program. As part of this program, battalion commander will submit a memorandum listing individuals in their respective units certified to perform the duties of OIC and RSO to Range Branch. This memorandum will be updated as required. An example memo is located on the Fort Campbell Portal and AKO Range page (<https://www.us.army.mil/suite/files/38939492>)

13-5. Officer In Charge

- a. Responsibilities.
 - (1) Overall supervision of the range, the personnel, and enforcement of safety.
 - (2) Be thoroughly familiar with this regulation, DA PAM 385-63 Chapter 13, and the applicable aircraft and armament TMs, and the unit range SOP.
- b. Duties.
 - (1) As described in the above listed publications and as briefed by the unit commander.
 - (2) OIC and RSO for aviation gunnery will be in separate aircraft and an aviation certified E-6 or above will act as assistant safety officer and be present at the range on the ground. The assistant SO has the same certification requirements as OIC and RSO but does not need to be weapon system qualified. This does not apply during "Laser Only" training events.

13-6. Safety Officers

- a. General. The SOs are responsible for the safe maneuver and firing of all helicopters. They will ensure that all conduct of firing and sequence of firing procedures are complied with at all times during gunnery maneuvers. SOs need to have the ability to monitor the firing aircraft at all times while on the range.
- b. Responsibilities.
 - (1) Provide overall safety supervision during range operations.
 - (2) Be thoroughly familiar with this regulation, AR/DA PAM 385-63, the applicable aircraft operator manuals, FMs and armament TMs, and unit range/gunnery SOP.
- c. Duties. As described in the above listed publications and as briefed by the unit commander.

13-7. Emergency Situation/Weapon Malfunction

- a. In ALL emergency situations, the Pilot-in-Command (PIC), if physically able, will remain with the aircraft until such time as qualified armament and/or EOD personnel arrive and clear the aircraft.
- b. When in-flight emergencies arise in armed helicopters, the PIC must make the final decision regarding when and where he will land the aircraft. Urgency of the emergency will determine if the procedures in CAM Reg 95-1 are followed for armed aircraft emergencies.
- c. Ammunition malfunction report will be processed IAW AR 75-1.

Chapter 14 Air Defense Weapons

14-1. General

- a. Report all accidents and incidents to the Fire Desk immediately, but not later than 30 minutes.
- b. DA PAM 385-63 prescribes the general procedures and safety criteria for firing anti-aircraft weapons in the aerial and ground support role. All personnel firing air defense weapons will be thoroughly knowledgeable of the safety requirements published in this and the above regulations and will comply with these regulations at all times.
- c. Air defense battalion commanders will maintain a safety training and certification program. As part of this program, battalion commanders will submit a memorandum listing individuals in their respective units certified to perform the duties of range OIC and RSO to Range Safety. This memorandum will be updated as required. An example memo is located on the Fort Campbell Portal and AKO Range page(<https://www.us.army.mil/suite/files/38939492>).
- d. Units will continuously monitor Range communication nets (radio and phone). Should communications be lost, a mandatory cease (check) fire will be initiated by the firing unit until communications are reestablished with the Fire Desk.
- e. Batterys will report all violations of their airspace to the Fire Desk to include type of aircraft, tail number, and direction of flight.

14-2. Air Defense Live Fire Safety Instructions

- a. Avenger Gunnery. The Avenger firing .50 cal ammunition can be fired into the North Impact Area, provided they meet the safety precautions outlined in DA PAM 385-63.
- b. Safety Procedures for Live Fire. Unit must provide SDZ diagrams, scenarios, and risk management worksheet to Range Safety IAW established timelines.
- c. For all gunnery when engaging Radio Controlled Miniature Aerial Target (RCMAT) in the North Impact Area, the firing unit must request a NOTAM IAW established timelines.
- d. Ensure personnel on the range have been briefed on firing safety, operation of the firing position, hang fire/misfire procedures, and ammunition handling.

Chapter 15 Airborne/Flight Landing Strip (FLS) Activities and Special Operations

15-1. General

- a. This Chapter defines the responsibilities, restrictions, control, and requirements for use of all DZs and surrounding air space on Fort Campbell, Kentucky. It also establishes procedures and safety criteria for conducting helocasting operations.
- b. Report all accidents and incidents to the Fire Desk immediately, but not later than 30 minutes.

15-2. Responsibilities

- a. Commanders. The unit commander is responsible for safety during all phases of an airborne/airland/helocasting exercise conducted under his control. Commanders of units conducting airborne/airland/helocasting operations, battalion level and above will establish and maintain a safety training and certification program. As part of this program, battalion commanders will submit a memorandum listing individuals in their respective units certified to perform the duties of Drop Zone Safety Officer (DZSO) and Malfunction Officer/NCO to Range Branch. This memorandum will be updated as required. An example memo is at figure 3-1.
- b. All scheduling will comply with Chapter 2.
- c. Ensure that dual means of communications are established and maintained with the Fire Desk and that no cellular phones are used west of Grant Road.

15-3. Control

- a. All aircraft operating within the Fort Campbell military reservation will communicate and monitor Eagle Radio frequencies (UHF 285.625, VHF 139.9).
- b. Eagle Radio is the Fort Campbell airspace coordinator. All military aircraft operating within Fort Campbell's restricted areas will comply with CAM Regulation 95-1, as well as Chapter 23 of this regulation. Eagle Radio will:
 - (1) Coordinate all air traffic affecting the airborne facility or restricted area through the Fire Desk.
 - (2) Warn aircraft to remain a minimum of 1 nautical mile horizontally from all DZs and Golden Eagle ALS when drops and/or assault landings are being conducted. Upon notification from Range Branch, Eagle Radio will broadcast this warning on the range information service until all drop aircraft have cleared the area.
 - (3) Alert airborne traffic of any unforeseen hazard.
- c. For all Airborne operations, a Drop Zone Safety Officer (DZSO), Assistant DZSO (ADZSO), Drop Zone Safety Team (DZST), Malfunction NCO, medics and road guards are required on an active DZ IAW the 101st Airborne Standard Operation Procedures (ASOP) and USASOC Reg 350-2. An Air Force Combat Control Tactical Team (CCTT) may be substituted for the DZST. The DZSO will be physically present from 1 hour prior to the first Time on Target (TOT) until all personnel and/or equipment are recovered and the DZ is closed. The DZSO may be a member of DZST or CCTT provided he/she meets the required qualifications for both positions.
- d. The drop aircraft will request permission to enter restricted airspace through Eagle Radio. The final approving authority for aircraft penetration into the restricted airspace is Eagle Radio. Eagle Radio will grant approval through Range Safety after Range Safety has initiated checkfires or confirming cease fires along the aircraft's line of flight. The check fires will remain in effect until lifted by the Fire Desk. The DZSO must immediately notify the Fire Desk of any changes in the drop schedule.

15-4. Non-participating Aircraft Restrictions

- a. Non-participating aircraft will remain a minimum of 1 nautical mile horizontally from active DZs and ALS during scheduled operations. Aircraft desiring to enter this airspace will not enter without clearance from the CCTT/DZSO, Primary 139.90 VHF, alternate 285.625 UHF, Aircraft will monitor Eagle Radio for updates to NOTAMs.
- b. Army rotary wing aircraft desiring to transition through the designated 1 nautical mile airspace around an active DZ or FLS or intending to land adjacent to a DZ or FLS will receive clearance from Eagle Radio not later than 20 minutes prior to first TOT. Upon receiving clearance from Eagle Radio, aircraft will establish communications with the DZ control party. Upon receipt of permission from the control party, the aircraft may enter the 1 nautical mile protected airspace to transit or land as requested.
- c. Aircraft will conform to published flight routes.
- d. Exceptions for special operations will be handled on a case-by-case basis by Range Safety.

15-5. General Restrictions

- a. Active DZs and Flight Landing Strip (FLS) are off limits to all personnel except those engaged in the operation being conducted.
- b. Non-participating ground training will not be conducted within 200 meters of any DZ, LZ or FLS.
- c. No digging or construction of any kind is permitted on or within 200 meters of any DZ or FLS.
- d. Only DZ control party/CCTT vehicles are authorized on the DZ. This applies even when there is co-usage of a DZ.
- e. Road guards must have communications with DZSO. Road guards must be placed to block all wheeled access to DZ or FLS. Road guards will only stop traffic when aircraft is 10 minutes out until the last chute of the pass hits

the ground. If multiple passes are planned, allow traffic to pass when safe to do so, or notify stopped traffic of detour route.

15-6. Flight Landing Strip (FLS) Support Requirements

For Air Force aircraft assault landings, the following minimum support personnel must be present in order to receive clearance from the Fire Desk to open the FLS.

- a. CCTT, or 5th Special Forces Group units may use an Arrival Airfield Control Group (AACG).
- b. Crash fire rescue team. **The supported unit must coordinate with the Fort Campbell Fire Department for this support.**
- c. Road guards.
- d. Qualified Medic (68W or 18D).

15-7. Qualifications/Responsibilities of DZ Support Personnel

- a. DZSO.
 - (1) General. The DZSO is the airborne commander's representative and is responsible for the safe operation of the DZ. He/she will be briefed by his/her commander or designated representative prior to assuming duties. No personnel and/or equipment will be dropped if the DZSO is not physically on the DZ.
 - (2) Qualifications. For all FORSCOM units, the DZSO must be qualified and current in accordance with the 101st Airborne Division ASOP. Special Operation units will be qualified in accordance with USASOC Reg 350-2.
 - (3) Responsibilities.
 - (a) Be familiar with the provisions of the 101st Airborne Division ASOP or USASOC Reg 350-2.
 - (c) Have overall operational responsibility for all personnel and equipment on the DZ.
 - (d) Contact the Fire Desk to open the DZ not later than 60 minutes before first TOT with the information IAW Chapter 4 of this regulation. In addition, relay the type aircraft, number of passes, and type of drop.
 - (e) Have two means of communication with the Fire Desk.
 - (f) Ensure that all helicopters operating in the vicinity of the DZ leave the area or secure rotor blades not later than 10 minutes prior to the first TOT. Clear or refuse clearance as appropriate to aircraft requesting permission to operate within 1 nautical mile of the DZ (except for helicopters actually dropping parachutists or parked off the DZ with blades secured).
 - (g) Post road guards, as necessary.
 - (h) Ensure the presence of medical coverage in accordance with the 101st Airborne Division ASOP or USASOC Reg 350-2.
 - (i) Contact the Fire Desk on the Range communications net for any final safety checks if required.
 - (j) Determine/verify and report the aerial release point for all High Altitude High Opening (HAHO) and High Altitude Low Opening (HALO) jumps to the Fire Desk prior to the release of any jumpers.
 - (k) Give final approval/disapproval for dropping parachutists or equipment.
 - (3) Special safety considerations.
 - (a) If, in the opinion of the DZSO/CCTT, unauthorized vehicle/helicopter activity on the DZ just prior to drop could cause a serious hazard to descending parachutists, the drop will be aborted.
 - (b) Ensure that all personnel on an active DZ wear helmets and appropriate body armor until termination of airborne activities. (This includes unit authorized the wearing of beret or patrolling caps while in field training.)
 - (c) Control spectators on and in the immediate vicinity of the DZ.
 - (d) The DZSO will immediately notify the Fire Desk of all incidents/accidents occurring during use of the DZ not later than 30 minutes after the drop and submit an Airborne Operations FLASH Report.
 - (1) During duty hours, call in the report to G3 Air.
 - (2) After duty hours, call in the report to the Division Staff Duty Officer (SDO).
 - (3) If the DZ cannot be closed due to lost equipment/jumpers, an interim report will be passed through the Fire Desk.
 - (4) This report does not replace nor relieve off-post and non-divisional units of their responsibility to report paradrop operations to their headquarters.
 - b. U.S. Army Parachute Malfunction Officer/NCO Duties.
 - (1) General. An airdrop malfunction is the partial or complete failure of a parachute, airdrop item, or component of an airdrop system to function as it was intended or designed.
 - (2) Qualifications. A Malfunction Officer is a qualified parachute rigger (officer or NCO) holding MOS 92G at the rank of SGT/E-5 or above and currently on airborne status IAW the 101st Airborne Division or USASOC Reg 350-2.

- (3) Responsibilities. The Malfunction Officer/NCO will --
 - (a) Be on the DZ not later than 1 hour prior to any personnel/equipment drop.
 - (b) Observe the execution of all airdrop missions.
 - (c) Secure all air items involved in known malfunctions.
 - (d) Conduct an investigation of all malfunctions and render reports through appropriate channels.

15-8. Special Instructions

- a. The DZSO will not change the flight pattern or route of the aircraft while the aircraft is within restricted airspace without the approval of Range Safety.
- b. The supported unit will be responsible for policing the DZ and spectator areas and removing all air delivery items (e.g., platforms, bundles, webbing, and trash) prior to closing the DZ.

15-9. Military Free Fall Operations (MFF)

- a. MFF operations include both HAHO and HALO exercises.
- b. Units participating in MFF operations will operate in accordance with USASOC Reg 350-2, FM 3-05.211, and this regulation.
- c. Procedures and Restrictions.
 - (1) Coordination of airspace.
 - (a) Prior to conducting MFF operations, NOTAM's and MFF flight corridor fans will be approved and filed with Range Safety.
 - (b) Information contained in the MFF flight corridor fans will include, but not be limited to, predicted release point (six digit grid), altitude, magnetic azimuth, and time of release.
 - (2) Control of MFF operations.
 - (a) The DZSO will establish communications with both the drop aircraft and the Fire Desk.
 - (b) The DZSO will report the predicted release point approximately 60 minutes prior to the first TOT.
 - (c) The DZSO will report the altitude, magnetic azimuth, and the time when the last jumper exited the aircraft.
 - (d) Corregidor DZ has been established as "no drop" DZ for HAHO operations.

15-10. Drop Zone Surveys and Additional Characteristics

These characteristics are subject to change. See the Air Movement Command Zone Availability Report (ZAR) <https://afkm.wpafb.af.mil/community/views/home.aspx?Filter=OO-OP-AM-40> for the latest published surveys. All surveys will also be located on the Fort Campbell Portal and AKO Range Page (<https://www.us.army.mil/suite/files/38939492>). These are the current surveyed drop zone located on Fort Campbell.

- a. Bastogne DZ.
 - (1) Small Arms Impact Area one nautical mile east of DZ.
 - (2) Traffic Control. The using unit will place traffic control posts on Palmyra Road at the northwest and southwest corners of the DZ and on Mabry Road at the east end of the DZ to stop all traffic until parachutists and equipment have cleared the roads. ****NOTE: Bastogne DZ is not authorized for fixed-wing aircraft.****
 - (3) Ranges 61, 62, and 63 are located within the survey. Regardless of the potential activity this drop zone may be utilized.
- b. Campbell Army Airfield.
- c. Corregidor DZ.
 - (1) South Impact Area 1.2 nautical miles west of DZ.
 - (2) Traffic control. The using unit is responsible for traffic control points on Angels Road at the northeast and northwest corners of the DZ, on Grant Road at the southeast corner of the DZ, and on Al Heath Road on west side of DZ. Traffic control personnel will stop traffic until all jumpers and equipment have cleared the road.
- d. Golden Eagle Flight Landing Strip.
- e. Suckchon DZ.
 - (1) Traffic control. The using unit will place traffic control posts on the road junctions located on Palmyra Road at North and South ends of DZ, Suckchon Road on East and West sides of DZ, and Colson Road on West side of DZ. These road guards will only stop traffic until parachutists and equipment are on the ground and clear of the roads.
 - (2) Range 75 is located on the drop zone.
- f. Veghel DZ.
 - (1) Traffic control. The using unit will place traffic control posts on the road junction at Artillery Road on the West and East sides of DZ and Veghel Road at South and North ends of DZ. Road guards will only stop traffic until

all parachutists and equipment are on the ground and clear of the road.

- (2) Flight Landing Strip is located on the North end of the drop zone.

15-11. Golden Eagle Flight Landing Strip (FLS)

a. The Golden Eagle Flight Landing Strip was constructed for landing C-130 aircraft. Unauthorized use degrades the airstrip below Air Force standards and forces major repairs. A 200 meter buffer zone has been established around Golden Eagle to prevent damage to the FLS. Golden Eagle FLS must be inspected and cleared by a Range Operations inspector after training is completed.

b. The following uses of Golden Eagle are **authorized**:

- (1) C-130 assault landings.
- (2) Personnel drops.

c. The loading ramp is restricted to those vehicles specifically required for on/off load operations, and then only when using prepared routes.

d. The commander of each unit signing for or utilizing TA 8A will prevent unauthorized use of Golden Eagle FLS and will enforce the 200 meter buffer zone.

e. The parking ramp of the FLS may be utilized after direct coordination with Range Branch.

15-12. Helocasting Operations

a. For helocasting operations, the following minimum support personnel and equipment must be present at the helocasting site in order to receive clearance from Range Safety:

- (1) Casting area safety officer (SFC or above certified by the battalion commander).
- (2) Castmaster (qualified combat diver) (SSG or above certified by the battalion commander).
- (3) Two safety boat NCOs (SGT or above and qualified dive supervisors).
- (4) Two qualified diver/Red Cross certified lifeguards.
- (5) Two safety power boats with operators.
- (6) Two medics with aid bag and backboard (must be medical dive technician qualified).
- (7) Two means of communication with the Fire Desk.

b. The casting area safety officer must have previously participated in helocasting operations. He is directly responsible for conducting the operations. The casting area safety officer must:

(1) Conform to the time schedule as closely as practicable in compliance with safety standards and conditions existing at the time of the operation.

- (2) Ensure all participants receive a complete briefing.
- (3) Brief the safety boat NCOs.
- (4) Cease the helocasting operation if any unsafe condition arises.
- (5) Ensure all jumpers wear life jackets or vests. (If a dry suit is worn, a life jacket or vest is unnecessary.)

c. The castmaster will be a qualified combat diver, and must have previously participated in helocasting operations. The castmaster will --

- (1) Make a reconnaissance of the proposed drop area.
- (2) Conduct the castmaster briefing.
- (3) Conduct a safety check of the helicopter to ensure the casting bar, when equipped, is properly placed and rigged for safe operations.
- (4) Perform a safety inspection of all swimmers to verify their equipment is properly positioned and functional in order to prevent any malfunction or injury upon exit from the aircraft or on contact with the water. Be particularly attentive to flotation devices, inspecting them in accordance with FM 3-05.212.

(5) Brief the pilot and air crew on all aspects of the operation to include hand and arm signals to be used and no-drop conditions.

(6) Ensure that voice communication exists and is functional among the castmaster, pilot and safety boats.

(7) Assign buddy teams and ensure that all swimmers are seated in stick order. He will verify that all swimmers understand their assigned duties and follow the hand and arm signals and verbal commands.

(8) Ensure that the swimmers exit the aircraft as buddy teams. Swimmers will exit the aircraft only on the command of the castmaster.

(9) Cast the swimmers only if the aircraft is correctly aligned and safe within the limits of speed and attitude.

(10) Ensure that no swimmer exits the aircraft until the boat is in the water when launching the Rigid Rafting Craft (RRC).

(11) Ensure all jumpers wear life jackets or vests. (If a dry suit is worn, a life jacket or vest is unnecessary.)

(12) Abort the operation if any unsafe condition exists.

- d. The safety boat NCO will --
- (1) Maintain effective control of all surface support in the casting area.
 - (2) Brief all safety boat personnel in conducting their assigned duties.
 - (3) Supervise the boat crews, medics and the safety divers.
 - (4) Establish and maintain boat-to-air communications.
 - (5) Physically inspect the casting area for safe water depth, obstacles, and potentially hazardous debris.
- Obstacles will be marked as required by the unit SOP.
- (6) Mark the casting area and transmitting appropriate and accurate weather, wind, and surf conditions, as applicable.
 - (7) Ensure that the safety boats are equipped with medical aid bags, backboards, radios, and buoys, with weights and sufficient line to mark suspected area of lost equipment.
 - (8) Ensure the casting area is kept clear of unnecessary personnel, equipment, boats, and debris.
 - (9) Ensure the safety boats move parallel and to the left of the helicopters' line of flight.
 - (10) Observe each swimmer during water entry.
 - (11) Abort helocasting operations if, in his opinion, any unsafe condition arises.
- e. The safety swimmers will be qualified combat divers or certified Red Cross lifeguards and will --
- (1) Follow prescribed safety procedures.
 - (2) Perform duties as directed by the castmaster.
 - (3) Follow castmaster commands.
 - (4) Signal upon surfacing after water entry, to indicate they are uninjured.
- f. Safety Considerations. Due to hazards involved, emphasize safety in planning for and executing helicopter casting operations. The following checklist will be implemented for each helocasting operation:
- (1) Immediately prior to a helocast operation, physically reconnoiter the casting area to verify water depth and the absence of obstacles and debris.
 - (2) Ensure water depth is no less than 15 feet.
 - (3) Ensure motorized safety boats are in the water with motors running to conduct helocasting and recovery operation.
 - (4) Establish radio voice communication between the safety boats and the drop aircraft.
 - (5) Ensure one standby diver in complete scuba gear is in each safety boat.
 - (6) Ensure the castmaster has voice communication with the pilot.
 - (7) Ensure drop altitude does not exceed 15 feet above the surface of the water (5 feet when launching RRC).
 - (8) Ensure drop speed does not exceed 15 knots indicated air speed (KIAS) when launching RRC.
 - (9) Ensure casting operations are done into the wind.
 - (10) Use only tail-ramp equipped helicopter to launch RRC.
 - (11) Ensure there is a qualified medic with a medical aid bag and a backboard in one of the safety boats.
 - (12) Ensure there is a qualified diving supervisor in one of the safety boats in the event the safety divers must enter the water.
 - (13) Cease helocasting operations in the event of an injured swimmer until the cause and extent of the injury are determined. Immediately contact the Fire Desk.
 - (14) Strictly follow the precautions for casting operations outlined in FM 3-05.210.

15-13. Rappelling, FRIES, SPIES, and STABO Operations

Units conducting Rappelling, FRIES, SPIES, STABO, or other similar activity must be certified, and will comply with the standards given in the 101st Airborne Division (Air Assault) Sabalauski Air Assault Handbook, the GOLD Book, with FM 3-05.210, TM 10-1670-262-12, and FC 57-38 and in other applicable publications.

15-14: Drop Zone Surveys

Located on the Air Mobility Command (AMC) Zone Availability Report (ZAR) Website
<https://afkm.wpafb.af.mil/community/views/home.aspx?Filter=OO-OP-AM-40>

DZ/ALS	Training Area	Grid Coordinates	Authorized Use	Remarks
Bastogne	14	DF 5000 5370	C,P,	Rotary Wing Use Only
Corregidor	25	DF 4353 5432	C, H, P, R	1
Golden Eagle	8A	DF 5180 4549	AASLT Landing	1
Golden Eagle	8A	DF 5180 4549	P, D, N, R	1
Suckchon	21	DF 4662 4552	C, H, P, N, R	1

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Veghel	44A	DF 2943 6175	N, C, P, H, R	1
AUTHORIZED USE CODES				
C=Container Delivery System	P=Personnel Drop	W=Deviation		
D=Daytime only	N=Night only	Z=Water Drop Zone		
H=Heavy Drop	R=Restricted	L=Low Alt Parachute Extraction System		
REMARK CODES				
1 – Drop Zone Survey on file and listed in the AF AZAR				

Table 15-1. DZ's and FLS

**Chapter 16
Live Fire Exercises**

16-1. General

- a. Report all accidents and incidents to Fire Desk immediately but not later than 30 minutes.
- b. Fort Campbell ranges facilitate squad, platoon, and company offensive and defensive operations.
- c. Units desiring to establish a new range or modify an existing range area must contact Range Safety not later than 30 days prior to discuss plans. No dud sweeps are required on these ranges. Digging target positions and fighting positions (and their excavation) must be approved by Range Safety.
- d. A completed coordination sheet, a written scenario, a medical safety plan, SDZ/WDZ Diagrams, and an approved and signed FC Form 4162 or DA Form 7566 will be turned in to Range Safety NLT 16 days prior for each live fire exercise that requires a target operator for support (10 days if target operator is not needed). The commander of units performing tasks not consistent with their established METL will be certified by the next higher command to train and perform such tasks. Subject Matter Experts (SME's) will be used to train, evaluate, and oversee training tasks not consistent with the unit METL. Safety is the responsibility of the commander and should be employed during all rehearsals and live fire exercises. Unit commander and OIC must prepare a written medical safety plan to incorporate and rehearse MEDEVAC routes and procedures. Units must ensure medics have appropriate communications equipment. Commanders/OICs and medical leadership must ensure that medics have the proper equipment.
- e. An OIC and RSO will be appointed for each live fire exercise. Both the OIC and RSO will have sufficient personnel, transportation, and communication equipment assigned to them to adequately and properly perform their duties.
- f. Prior to conducting a live fire exercise, the OIC(s) and RSO(s) must be thoroughly familiar with the contents of AR/DA PAM 385-63, appropriate FMs/TCs/TMs, this regulation, the scenario, medical safety plan, and risk assessment for the exercise to be conducted. The Range OIC(s)/RSO(s) must conduct a range walk with the Range Operations Specialist a minimum of 16 days prior to the training date for a range that requires a target operator for support (10 days if target operator is not needed). The OIC/RSO will brief Range Safety not later than 16 days prior to the beginning of the exercise or 10 days if target operator is not needed. All co-ordinations, scenarios, risk assessments, medical safety plans, and SDZs/WDZs must be approved by Range Safety not later than 16 days prior for a range that requires a target operator for support (10 days if target operator is not needed).
- g. Live fire exercises at battalion level or higher requires the OIC to be a field grade officer.

16-2. Commanding General's Policy Letter 25.

All units will comply with the provisions and guidance contained in Policy Letter 25. No exceptions or deviations from the provisions of this Policy Letter are authorized unless approved by the Commanding General. Policy Letter 25 is published by G3 and is located on the Fort Campbell Portal and AKO Range Page (<https://www.us.army.mil/suite/files/38939492>).

16-3. Overhead Fire

Refer to AR/DA PAM 385-63 for the additional information and requirements for overhead fire. Overhead fire with any weapon other than artillery (with approved ammunition) is not authorized without an approved deviation signed by the CG.

16-4. Close Air Support

- a. It is essential that the live fire phases of joint training exercises be characterized by maximum realism without compromising minimum safety requirements.
- b. Close coordination of the participating personnel in a joint live fire exercise must be accomplished through the development of realistic fire, maneuver, and safety plans.
- c. Direct communications will be ensured at all times between the JTAC and the Fire Support Coordination Carrier coordinating any direct support artillery fire in the vicinity of the air strike. The JTAC should contact Eagle Radio if a check fire is desired prior to tactical aircraft penetrating the restricted airspace. The task force commander is responsible for the safety of tactical aircraft during live fire exercises.
- d. Before firing any weapon under conditions in which the maximum ordinate of fire will exceed 45 meters AGL, the responsible commander will provide aircraft spotters and/or a RSO who will call a cease fire when the aircraft traverses the vertical danger zone or approaches the firing point.

16-5. Aviation

- a. The task force commander has authority to control all assets conducting live fire exercises, including aviation, and must ensure that he has positive control of the range at all times.
- b. Aviation officers should be brought into the planning sequence as soon as the task force commander has developed his concept of the operation. This will allow the time needed to properly plan and coordinate operations. The air mission briefing must eliminate any confusion and should take place after aviation operations have been planned and coordinated.
- c. Aviation live fire exercises must be sequence-oriented rather than time-oriented to allow flexibility based on the situation. Formal target hand-off must be made before the aircraft proceeds down range.
- d. Range Safety must approve all SDZs/WDZs and will be briefed not later than 10 days prior (16 days prior if target operator is required) to the beginning of any exercise.

16-6. Designated MOUT Facilities, Maneuver Ranges, Shoot House Facilities, and Ranges Surrounding the North and South Impact Areas

****NOTE:** A range walk is required with the appropriate Range Operations Specialist (range manager). All range Officers-In-Charge (OIC) and Range Safety Officers (RSO) who have been certified by their Battalion commander must be on the range walk. Refer to Chapter 6.**

- a. Units are allocated these resources at the RAC. Units request the range(s) using RFMSS or FC Form 253.
- b. After the unit has scheduled the range(s), coordination with the Range Operations Specialist, Operations, and Range Safety is required.
- c. Coordination with the Range Operations Specialist and Range Operations will be to examine the range facilities and develop a scenario to be used on the range. This must be accomplished no later than 16 days prior to using the range that requires a target operator for support (10 days if target operator is not needed)..
- d. Coordination with Range Safety serves three purposes: First, the unit must detail how range conflicts are to be resolved not later than 30 days prior to use. For example, Ranges 52 and 53 are scheduled to the same unit. The unit must brief its plan on when each will be used and who will use them. The second purpose of the coordination is to develop the SDZs/WDZs for each range. This must be completed no later than 16 days prior for a range that requires a target operator for support (10 days if target operator is not needed). Finally, the unit's original risk management worksheet listing all recognized hazards according to METL, countermeasures, and supervisory controls, must be submitted to Range Safety no later than 16 days prior to the mission for a range that requires a target operator for support (10 days if target operator is not needed). The worksheet must be signed by the appropriate level of command based on the level of risk. A copy will be maintained at the range so last minute hazards can be addressed as required.
- e. Failure to make these coordination's will result in cancellation of the range(s).
- f. Failure to follow the hand grenade control measures outlined below will result in serious injury or death to individuals training with hand grenades, personnel performing maintenance on bunkers, or EOD clearing duds from bunkers. The range packets will not be approved until hand grenades are addressed within the risk assessment. Unit commanders using practice blue body hand grenades and live M67 hand grenades on maneuver live fire ranges with hand grenade bunkers will add the following to their risk assessments for their training event:
 - (1) Grenade throwers will be identified and complete task training on the same bunker prior to the live fire exercise, both day and night. Only one grenade allowed per bunker, per iteration.
 - (2) With Team Leader/Squad Leader participation, all members of each team will rehearse an immediate action drill for a lost grenade.

(3) The company commander, company executive officer, or first sergeant will personally be present when each grenade is thrown, bearing ultimate responsibility for voicing “grenade live” in the event of a loose grenade.

(4) Personnel will carry hand grenades in the ammunition pouch using the carrying safety straps designed specifically for this purpose or in the grenade pockets of the Enhanced Tactical Load Bearing Vest (ETLBV). When storing grenades in the ammunition pouch or on the ETLBV, personnel will adhere to the following guidelines:

- (a) Ensure that the grenade is fully inside of the carrying pouch and that the pocket flap is fully secured
- (b) Ensure the safety lever is inside of the carrying pouch, and the pull ring is in the downward position.
- (c) Then, wrap the restraining strap around the neck of the fuze, and secure to the LCE only.
- (d) DO NOT put adhesive tape around a grenade fuze, the pull ring, or safety lever.
- (e) Never make unauthorized modifications to hand grenades.

WARNING

Do not tape a hand grenade safety lever or safety pin. The safety pin can come off with the tape, causing the grenade to explode.

Never carry the grenades suspended by the safety pull ring or safety lever.

Grenade safety devices are designed so that the grenade remains safe in storage. Do not bend, tamper, modify or otherwise alter a hand grenade safety pin or safety lever.

During training missions, do not carry hand grenades in ammunition pouches during airborne operations. Carry the grenades in the main body of the rucksack instead. Refer to FM 3-23.30, chapter 3.

(5) Fragmentary hand grenades will be thrown one at a time; **no simultaneous** throwing of hand grenades and only **one per bunker per iteration**. If a thrown hand grenade does not explode, an immediate check fire will be initiated for a dud. The OIC or unit commander will notify the Fire Desk immediately.

(6) All grenade bunkers will be identified during the TEWT. All grenade drills will be executed during the blank fire iteration. All practice grenades will be blue body in color. All practice grenades will be recovered from bunkers after each iteration.

(7) All personnel to include OICs will wear ACH, IBA with plates installed, eye protection, approved hearing protection, and gloves.

(8) Ammunition handling and accountability of hand grenades. Range OIC, RSO, and company commander will keep an accurate count of all blue body practice grenades and all live hand grenades. The list of grenades will be checked against each other after each iteration. If craters inside grenade bunkers are deeper than 6 inches, the craters must be filled in by unit prior to conducting another iteration of training. At no time will a bunker containing water be used.

(9) Range Operations will inspect all bunkers after completion of each blank fire and live fire iteration. Range Operations will also inspect all bunkers after completion of training.

16-7. MORTAR Full Range Training Cartridge (FRTC)

a. Units may fire the full range training cartridges (FRTC) from mortars into the North and South Impact Areas. FRTC Rounds may also be fired into areas outside the established impact area at OP 13 only, with approval of Range Safety.

b. All rounds fired must be accounted for and EOD notified for all duds. Range Operations and EOD will clear OP13 when the FRTC has been fired. Clearance must be accomplished prior to use by another firing unit.

c. SDZs must be developed and included in the Range Packet.

Chapter 17

Chemical Agents, Smoke, Pyrotechnics, and Blanks

17-1. General

a. Report all accidents and incidents to the Fire Desk immediately but no later than 30 minutes.

b. This Chapter establishes procedures and safety criteria for the employment of chemical agent stimulants, riot control agent (CS), smoke, pyrotechnics, and blanks. If properly managed, these training munitions can improve training results by providing a more realistic experience for soldiers.

17-2. Riot Control Agent

a. CS is used during training to enhance biological and chemical defense training and to aid in the evaluation of CBRN proficiency.

b. The following restrictions will apply when dispersing CS:

(1) CS will not be dispersed east of Market Garden Road and 101st Airborne Division Road.

(2) CS will not be dispersed within 1000 meters of the reservation boundary.

(3) CS will only be employed in TAs controlled by the employing unit.

(4) CS will not be employed within 500 meters of a paved road unless the employing commander has prior approval from Range Safety no later than 10 days prior to employment. Unit commanders will establish road blocks to prevent exercise non-participants from driving into a CS cloud without advance warning and ensure no residual CS is left on the road after the attack.

(5) Pregnant soldiers with a valid profile will be exempt from exposure to CS and other chemicals that simulate CBRN training.

(6) A NOTAM must be processed through Range Scheduling to the G3 Air not later than 10 days prior to employment.

c. The following items will not be targeted without prior approval of the commander of the targeted unit:

(1) Moving vehicles operating during periods of limited visibility (to include blackout drive) and vehicles traveling in excess of 30 miles per hour.

(2) Aircraft will not be targeted in such a manner as to contaminate the aircraft with residual CS. Furthermore, aircraft will not be targeted while refueling. CS will not be used within 100 meters of the aircraft.

(3) Hot refuel points will not be targeted while refueling operations are conducted. CS will not be employed within 100 meters of the refueling points.

(4) Kyle Lake. CS can only be used in the vicinity of Kyle Lake if the using unit has scheduled both Kyle Lake and TA 31.

d. The employment of CS is accomplished by utilization of the M5 aerial/ground CS disperser, the M33A1 CS backpack disperser, CS grenades, CS capsules, and CS powder. Tactical CS employment requires the user unit to publish notifications to the Screaming Eagle Bulletin. This notice will contain the grid coordinate location (6 digits), TA, unit, and time frame during which dispersal will occur.

e. Personnel employing CS in a ground dispersal fashion will wear a protective mask. Transportation of CS in ground vehicles will be limited to the rear portion of those vehicles and will be in accordance with appropriate explosive transport requirements. Personnel transporting CS will have a protective mask readily available.

f. The M25A1 grenades (baseball-type) will only be used when training individuals in riot control. Personnel will be aware of the restriction imposed by the burn index. Contact Fire Desk for the current burn index and refer to Table 3-2 of this regulation. Grenades will project an igniter holder assembly about 15 feet away from the grenade when thrown. Exercise care to ensure the assembly does not strike personnel.

17-3. Smoke

a. Units conducting smoke operations are required to schedule the area for smoke operations, request NOTAM NLT 10 days prior, request for publication in two Screaming Eagle Bulletins prior to operation, and turn in to Range Safety a written scenario explaining control measures, a SDZ of the affected area, and a risk assessment identifying smoke as a hazard NLT 10 days prior to training.

b. Units conducting smoke operations are responsible for ensuring that no smoke enters within 500 meters of the reservation boundary or hard surface roads. Furthermore, smoke operations will be conducted so that the waters of Kyle Lake are not contaminated. Smoke will not be employed east of a line formed by Market Garden Road, Jordan Springs Road, 11th Airborne Division Road, and 101st Airborne Division Road.

c. Smoke may only be employed in TAs controlled by the employing unit. The effects of smoke operations will not extend into DZs or into other TA's unless prior coordination has been conducted with all affected units. A copy of the written agreement between the units must be on file with the Range Safety NLT 10 days prior to the smoke operation.

d. Prior to conducting smoke operations, the unit will contact the Fire Desk on one of the nets to open the area for smoke operations. To open with the Fire Desk, the OIC and RSO must have a battalion commander's certification for smoke operations on file at Range Safety. While conducting smoke operations, the unit must maintain two means of communication with the Fire Desk.

e. The OIC and RSO are responsible for monitoring and controlling the effects of the smoke operation. If the smoke enters the buffer zone, the following actions will be taken:

(1) The OIC or RSO will immediately cease all smoke operations.

(2) The OIC or RSO will notify the Fire Desk of the incident, reporting the location, direction, and density of the smoke. The unit will monitor the smoke until it dissipates and Range Safety relieves the unit of this responsibility.

(3) The Fire Desk will notify the MP desk of the smoke screen's location, direction, and density. The MPs will contact local law enforcement agencies to coordinate required traffic control.

(4) The Fire Desk will notify the IOC keeping them informed of the status of the smoke screen.

(5) When hard surface roads become obscured by smoke, the responsible unit will deploy road guards to warn traffic.

f. Smoke operations are to be treated and controlled like a live fire range. Any noncompliance with these procedures will be cited as an unsafe act and a range incident report will be submitted to the G3.

g. Smoke grenades may be used as command and control signals east of a line formed by Market Garden Road, Jordan Springs Road, 11th Airborne Division Road, and 101st Airborne Division Road provided the smoke does not cross the post boundary or obscure hard surface roads. The use of red smoke and red star cluster is restricted to emergencies only (e.g., range cease fires, MEDEVAC).

h. Commanders must be aware of the following three hazards of smoke:

(1) Burning munitions, such as HC smoke grenades and smoke pots, will consume most of the oxygen in enclosed spaces and, when used in operations such as Urban Operations Sites, may cause injuries through oxygen deprivation. Protective masks will not protect soldiers if there is no oxygen to breathe. Do not use smoke grenades or smoke pots in enclosed spaces.

(2) HC smoke produced by the M8 white smoke grenade, smoke pots, and the new metallic powder obscurants sometimes used on armored vehicle smoke grenade launchers have long term health hazards. Unprotected soldiers should not be exposed to HC smoke or metallic powder obscurants.

(3) Fog oil smoke produced by smoke generators is a POL product and exposure to heavy concentrations or prolonged exposure may cause discomfort and potential injury.

i. Personnel will carry the protective mask when participating in exercises which include the use of smoke and will mask:

(1) Before or when passing through or operating in prolonged dense smoke (visibility less than 50 meters) such as smoke blankets and smoke curtains.

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

(3) Anytime exposure to smoke produces breathing difficulty, irritation, or discomfort. These effects in one individual will serve as a signal for all similarly exposed personnel to mask.

(4) When using smoke during MOUT training or when operating in enclosed spaces, it is important to remember that the protective mask is not effective in oxygen deficient atmospheres. Care must be taken not to enter confined spaces where oxygen may have been consumed.

j. Units employing smoke near surfaced roads will position road guards to alert vehicle traffic to the possible smoke effects crossing the road. In addition, the following guidelines will be adhered to:

k. Special precautions must be taken when using HC smoke to ensure that appropriate protection is provided to all personnel who are likely to be exposed.

(1) When planning for the use of HC smoke in training, specific consideration must be given to weather conditions and the potential downwind effects of the smoke. Positive controls, such as observation points, control points, and communications, must be established to prevent exposure of unprotected and nonparticipating personnel.

(2) Soldiers exposed for prolonged periods to smoke should reduce skin exposure by rolling down sleeves, showering, and laundering their clothing following the exercises. This will reduce skin irritation.

l. Smoke obscured roads present a safety hazard and should not be used until the smoke dissipates. If smoke obscured roads must be used, extreme caution must be taken. Non-tactical vehicles on all roads and all vehicles on hard surface roads will use headlights and emergency warning lights and not exceed 15 mph when proceeding through smoke.

m. Red smoke will only be used to mark the location of an actual emergency.

17-4. Pyrotechnics

a. Non-standard ammunition and pyrotechnics are more dangerous than many other types of ammunition because they are more easily initiated. Pyrotechnics must be handled with care at all times. Safety precautions for handling and firing pyrotechnic cartridges and accessories are included in DA PAM 385-64.

b. Pyrotechnics may only be used in TAs west of Market Garden Road.

c. Personnel authorized to use pyrotechnic simulators will be NCOs at the rank of SGT or above. In cases where corporals are assigned the duty of squad leader/section chief, commanders may grant the authority to use pyrotechnics. Commanders will brief these personnel on the specific responsibilities, accountability, and safety requirements. A thorough safety briefing will be conducted by the OIC of that unit's training addressing the proper use of pyrotechnic simulators prior to the use of such devices.

d. Detailed instructions for the safe use of simulators are contained in TC 7-21.10 and FM 3-23.30. For systems not contained in the TC/FM refer to system safety data sheet for requirements.

e. The firing of pyrotechnics in tactical TAs may cause range fires. TAs contain ample fuel for starting and sustaining range fires. Personnel using pyrotechnics must exercise caution to avoid the accidental start of fires (see Table 3-2).

f. Trip flares and booby traps not detonated during training will be removed prior to departing the area.

g. When a fire is started in a TA, the OIC will stop all training and concentrate on fighting the fire, using all available personnel.

h. No pyrotechnics will be ignited within 15 meters of personnel or equipment. Simulators will not be thrown over the heads of soldiers.

i. Use of Blank Ammunition.

(1) Blank cartridges will not be fired toward personnel within 3 meters of the weapon.

(2) When misfires in excess of 5 percent occur in firing blank cartridges, the entire lot of ammunition will be suspended and reported to the Fire Desk.

(3) Live and blank small arms ammunition will not be fired at the same time during any phase of a tactical exercise. If a change from live to blank ammunition is necessary during the exercise, a complete physical search of all personnel will be conducted prior to changeover.

17-5. Training Agents

a. Simulator Projectile Airburst Liquid (SPAL). Any personnel employing SPAL should be careful not to have the projectiles burst above or around personnel. Any additional printed precautions with the item should be followed to implement safety data for new training munitions.

b. Training Agent PEG200. PEG200 may be employed on terrain, equipment, and personnel by ground dispersal, aerial spray, or SPAL.

c. Training agent methyl salicylate (mint) may be employed on terrain, equipment, and personnel by ground or aerial dispersal.

d. Training agents will not be used when or where they could interfere with operations at Campbell Army Airfield or Sabre Army Helipoint.

17-6. Sanator Operations

a. Units will not conduct vehicle decontamination training with SANATORS in or near any streams on the installation.

b. Units may conduct training with SANATORS at the North and South Wash Racks.

c. Units may tap into water holes/ponds for SANATORS operations (but not into streams).

Chapter 18

Mine, Demolition and Engineer Training

18-1. General

a. Report all accidents and incidents to the Fire Desk immediately, but no later than 30 minutes.

b. DA PAM 385-63 prescribes the general procedures for handling and detonating explosives, mines, firing devices, trip flares, and simulators used by troops in training. All personnel handling or detonating explosives on the Fort Campbell reservation will be thoroughly knowledgeable of the safety requirements published in this regulation and will comply with these requirements at all times. ****HAND GRENADES WILL NOT BE USED IN CONJUNCTION WITH ANY DEMOLITION TRAINING ON FORT CAMPBELL.****

18-2. Scheduling and Utilizing Mine and Demolition in Training Areas

a. Demo 39 is the designated range for general demolitions training.

b. When firing or using demolitions in areas other than Demo 39, the TA to be used will be requested and scheduled for use by the unit detonating the explosives. The unit must also submit a NOTAM request to warn aircraft of the blast(s). These requests must be approved not later than 10 days prior to the date of intended use.

When the OIC opens the TA, he will also report the type of explosive being used, the number of shots, and amount of explosives in each shot.

c. Demolition Plan.

(1) A copy of the training unit's DA Form 2203 (Demolition Reconnaissance Record) will be provided to Range Safety at the time the unit requests use of the range for training purposes.

(2) The training unit's Demolition Reconnaissance Record must be approved one level above the unit requesting explosives, but not less than battalion level.

(3) This plan will be used as a cross check against explosives reported as expended.

(a) Range Safety will be provided the Unit's original Demolition Reconnaissance Record, SDZs, Risk Management Worksheet, and a Written Scenario NLT 10 days prior to training date.

(b) Units conducting training will provide the Fire Desk the following: type of training, type and amount of explosives being used by DODIC, and firing systems types. At the time the range is closed the unit will provide dud or misfire count and total amount of explosives used by DODIC. The Fire Desk will record the information.

18-3. Officer In Charge Responsibilities

a. When detonating explosives, the OIC will be present on the range/TA to supervise training. OIC/RSO will ensure that all connections are inspected by qualified personnel before firing and that the area is inspected after firing to determine if all charges were detonated. The OIC, with proper assistance, will supervise the neutralization of all misfires.

b. The OIC must ensure the minimum safe distance for personnel is clear of personnel and helicopters in flight. Measures taken may include the use of audible and visual warning signals and road guards.

c. The demolition firing unit OIC will compute and submit an overlay depicting the minimum safe distance zone, for personnel in the open, to Range Safety not later than 10 days prior to the date of intended use.

d. Prior to conducting a firing exercise involving any special demolition charges or assemblies, the unit OIC of firing will report blast location to the Fire Desk and give 15 and 5 minute blast warnings.

e. After detonation, the OIC will make an after-blast report of detonation to the Fire Desk.

18-4. M18A1, Anti-Personnel Weapon (Claymore)

a. Range 1 is normally used for familiarization firing of this weapon. Claymores may also be fired on DEMO 39, Ranges 17, 27, 28, 42, 52, 53, 54, 55, and OP 13 if safety requirements can be met.

b. A copy of FM 23-23 will always be present during firing of this weapon.

c. The safety precautions outlined in FM 23-23 will be strictly followed.

18-5. Missile/Projectile Hazards

Explosives can propel lethal missiles/projectiles to great distances. How far an explosion propelled missile will travel through the air depends on many variables. Table 18-1 displays the distances at which personnel in the open are relatively safe from missile hazards created by bare charges placed in or on the ground, regardless of type of condition of the soil.

Pounds of Explosives	Safe Distance in Meters
	300
1-27	369
50	465
100	534
150	585
200	

Table 18-1. Safe Distance Requirements For Demolition

18-6. Firing Detonating Cord

When using less than 50 feet of detonating cord primed with a blasting cap, the minimum safe distance for protected personnel is 100 meters. The OIC will ensure no unprotected personnel are within 300 meters of the detonating cord, that his unit has scheduled the Range/TA, and that he has opened the Range/TA in accordance with this regulation. The Fire Desk will be notified of his intentions to use detonating cord and radio

communication will be continually maintained with the Fire Desk.

****NOTE:** Protected personnel for this training refers to soldiers equipped with ACH, IBA with plates installed, eye protection and earplugs; lying in the prone position behind masking terrain.**

18-7. Restrictions and Warnings

- a. Detonating mines and explosives of any kind will not be conducted:
 - (1) During severe weather warnings (see appendix E).
 - (2) During the hours of darkness, except when less than 40 pounds of explosives are used. Night demolitions training will be conducted on Demo 39 only. Breach operations and Claymore mines may be employed on tactical maneuver ranges at night on a case-by-case basis.
- b. Fuses (to include practice), mines, detonators, and explosive simulators which do not detonate are dangerous and will not be handled except by personnel trained for such a purpose.
- c. No more than 120 pounds of explosives are to be detonated on Fort Campbell.
- d. Explosives will not be fired within 2000 meters of the reservation boundaries.
- e. During temperature inversion conditions, demolition training may be curtailed or postponed.

18-8. Conduct of Barrier/Denial Training

The use of actual rather than simulated obstacles in the conduct of barrier/denial training operations provides realistic training for both engineer and supported units. Conduct of such training, to include use of explosives outside of the designated areas prescribed in this regulation, requires additional administrative and safety precautions to be coordinated through Range Safety. These operations must comply with applicable laws and regulations dealing with environmental concerns. In order to maximize realism consistent with prudent safety considerations, the following procedures are established:

- a. No obstacles requiring demolitions or tank ditching will be conducted on any named roads. Obstacles on unimproved dirt roads and fire breaks may be coordinated with Range Safety and Installation Training Area Management (ITAM) for approval. All areas must be returned to its original condition upon completion and inspected by ITAM.
 - b. Units intending to construct any type of barrier along paved roads must get the approval of the Range Program Manager at least 2 weeks prior and must place a notice in the Screaming Eagle Bulletin 1 week prior to the date construction begins.
 - c. Barrier plans requiring the closing of paved and or gravel roads will provide provisions for immediate access by emergency vehicles and/or firefighting equipment. The barrier will be marked with engineer tape and chemical lights at night. Full access, to include use of fire breaks, must be restorable within 2 hours of notification of a major forest/brush fire.
 - d. Any barrier crossing or closing of a paved or gravel road must be approved by Range Safety not later than 16 days prior and must be manned by a road guard to warn nonparticipants of the hazard. Units will also provide warning lights along all approaches to the hazard.
 - e. Upon completion of training, all obstacles must be completely removed, and as much as possible, the area restored to its original condition.
 - f. Units must ensure compliance with all laws and regulations designed to protect the environment and endangered species. Appropriate dig permits must be approved in advance. Any digging or modification of the environment will be coordinated with Range Safety, ITAM, and the Environmental Office on post for approval.
- **CAUTION: DO NOT TRENCH ALONG OR ACROSS BURIED COMMUNICATION CABLE.****

Chapter 19

Laser Operations

19-1. Purpose

This Chapter establishes local safety procedures for Laser Operations which supplement those contained in DA PAM 385-63.

19-2. General

- a. Report all accidents and incidents to Fire Desk immediately, but not later than 30 minutes.
- b. The fundamental concept of laser range safety is to prevent direct and collateral injury or damage resulting from laser use. Personnel using or supervising the use of laser must be thoroughly familiar with all aspects of laser operations and associated danger. Tactical lasers will be treated as a direct fire weapon IAW MIL-HDBK-828B

w/Change 1. All Laser use within the Training Complex will be coordinated and approved by Range Safety. Class III and Class IV Lasers will require an SDZ (approved by Range Safety) and require a Laser Range Safety Officer.

19-3. Responsibilities

The laser firing unit commander is responsible for safety during all phases of a firing exercise conducted by his unit. Commanders of laser using units are responsible for ensuring strict compliance with procedures in this Chapter, DA PAM 385-63, MIL-HDBK-828B and the applicable TM for the laser system used. Commanders of laser using units (battalion and above) will establish and maintain a laser safety training and certification program.

a. Commanders of units are responsible to ensure Range Safety is notified prior to conducting laser training. Laser firing is treated as a Live Fire Range.

b. Commanders will report any case of suspected radiation exposure of the eye to the Fire Desk, Division Surgeon and Installation Safety Office immediately. An eye examination must be performed within 24 hours of the suspected exposure.

19-4. Officer in Charge

The OIC is responsible for all aspects of safety and will be thoroughly familiar with the references listed in paragraph 19-2. The OIC will ensure compliance with all applicable portions of this regulation.

19-5. Laser Range Safety Officer

The LRSO will --

a. Conduct a thorough safety countermeasure briefing to all personnel authorized to participate in the laser operation.

b. Ensure all laser beams terminate in the appropriate impact area.

c. Provide adequate control of the target area to prevent unauthorized personnel from entering the area and maintain continuous communication with the Fire Desk. If unprotected personnel enter into the laser surface danger zone, the LRSO will immediately terminate laser operations.

d. Ensure that operators fire only at designated targets within the SDZ. At no time will operators fire at aircraft, manned vehicles, flat, specular (mirror like) surfaces (such as target vehicle windshields), or water filled craters.

e. Ensure that laser is not operated or experimented with against targets that are outside the range area. When not in use, ensure the laser exit port is covered with an opaque dust cover and the laser is disabled in accordance with the appropriate TM/FM governing the weapon system (s).

19-6. Laser Hazards

a. Hazards are almost exclusively associated with inadvertent exposure of the unprotected eye to intra-beam viewing, either from the direct beam or a reflected beam. Very high radiant exposures will cause gases to form near the site of absorption which may disrupt the retina and may alter the physical structure of the eye.

b. Adverse thermal effects resulting from exposure of the skin to radiation may vary from mild reddening to blistering, depending upon the exposure dose rate.

19-7. Safety Requirements

a. The laser port will be covered by an opaque dust cover or ballistic cover when the laser is not in use in order to prevent accidental firing of the device. This requirement includes tactical training exercises, movement to and from ranges, or when the device is in storage. The laser will be further disabled in accordance with the appropriate TM/FM governing the weapon system.

b. This regulation does not apply when Multiple Integrated Laser Engagement System (MILES) laser devices are used in two-sided tactical exercises. No tactical force on force training with laser devices is permitted with TACTICAL laser systems.

c. Laser warning signs will be posted on all normal approaches to the range. Nonstandard signs will be drawn from Range Branch along with other safety supplies.

d. Inclement weather and night operations require no additional safety precautions. Certain ranges may be closed for operation if water begins to pond.

e. Use training filters whenever possible. Training filters reduce the ocular hazard distance, which greatly improves system safety. However, these filters may also reduce the engagement range of the system. When targets can be engaged effectively using training filters, training filters should be employed.

19-8. Range Usage

a. Beam Termination. During laser operations, no portion of the laser beam should extend beyond the controlled target area. Two types of buffer zones will ensure the laser beam terminates in the controlled target area: horizontal buffer zones and vertical buffer zones. Horizontal buffer zones extend to the right and left of the target, while the vertical buffer zone extends down from the horizon. A 10 mil buffer zone (horizontal and vertical) will be used for laser systems not previously evaluated by the Army Environmental Hygiene Agency. All other laser systems will use the data published in DA PAM 385-63.

b. Units must submit a SDZ to Range Safety depicting specific firing points (FP's), left and right limits, vertical buffer zones, and type of laser being used. These SDZs must be provided to Range Safety not later than 10 days prior (16 days prior if target operator is required) to the date of intended use.

Chapter 20

Target/Target Mechanisms

Range Operations Specialists will have a list for the number of available targets, the types of targets, and the different target mechanisms for each individual range. Targets may be programmed for sensitivity, number of hits, time of exposure, night muzzle flash device times, and length of exposure (moving targets). For live fire maneuver Ranges that require special programming, OIC can schedule to review the program before starting training dates by coordinating with the Range or Section Manager. Simulators may be used with target systems on maneuver ranges; this includes thermal devices, Battle Effects Simulator (BES-36/60), Pneumatic Machine Guns, and night muzzle flash devices simulators.

****Note: If requesting BES-36/60 support, you must request the ammo from the ASP and bring to the range. Range Operators will load ammo and set off during training. The only 2 approved ammunitions for this simulator is PYRO HOSTILE FIRE M34 (1370-LA53) AND PYRO TARGET HIT WHITE STAR M35 (1370-LA54). M34 Hostile Fire is the main ammo used for this Device, the signature is like a RPG fired from an enemy position.**

20-1. Moving Armor Target (MAT)

An electrically powered moving mechanism capable of holding a flanking silhouette of an armored target. An example of the MAT see [figure 20-1](#).

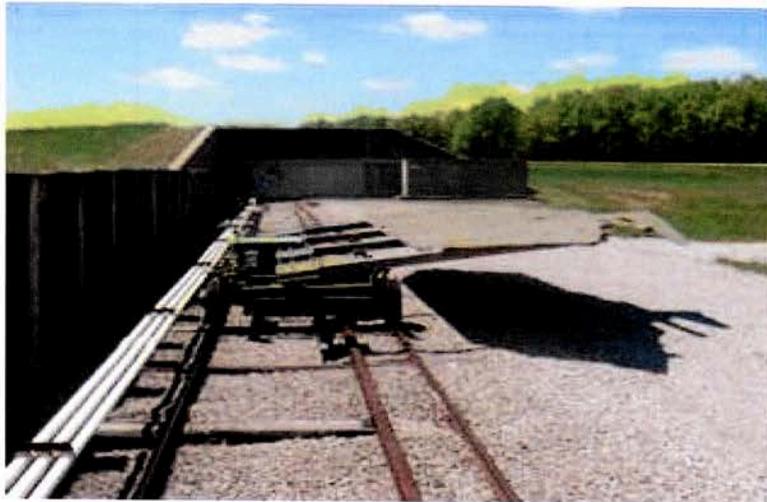


Figure 20-1 Moving Armor Target (MAT)

20-2. Stationary Armor Target (SAT)

An electrically powered stationary mechanism capable of holding a frontal or a flanking silhouette (heavy lift mechanism) of an armored target. An example of SAT see [figure 20-2](#).



Figure 20-2. Stationary Armor Target (SAT)

20-3. Moving Infantry Target (MIT)

The Moving Infantry Target (MIT) simulates an infantryman moving with evasive deftness by traveling from left to right, right to left, changing speed, stopping, instantly changing direction, and dropping from sight on command or when hit. (See figure 20-3).



Figure 20-3. Moving Infantry Target (MIT)

20-4. Stationary Infantry Target (SIT)

The target may present a single or double personnel (machinegun targets) silhouette. The target may be equipped with thermal devices, hostile fire simulators, night fire simulators. (See figure 20-4).



Figure 20-4. Stationary Infantry Target (SIT)

20-5. Steel Reactive Targets

Units training with Steel Reactive Targets at close range must meet the minimum safe distance according to the following weapons systems: Pistols and shotguns will be fired no closer than 10 meters; 5.56/7.62mm safe distance is 50 meters; Shotguns using 12 gauge slug ammunition the minimum safe distance is 50 meters.

20-6. Target Scenarios

Qualification range computers are programmed for the regulation or FM required scenarios. Maneuver ranges are programmed for the common scenarios used by the majority of units. Scenario changes are discussed during the coordination between the Range Specialist and the OIC's and RSO's NLT sixteen (16) days. This allows for programming the computer and setting up and conducting maintenance on the targets and positions.

Chapter 21

Training Land Stewardship - Integrated Training Area Management (ITAM)

21-1. General.

The ITAM program provides a management and decision-making process to integrate military training and other mission requirements for land use with sound natural resource management of land. The overall goal of the ITAM program is to achieve optimum, sustainable use of the Ft Campbell training lands to meet current training needs without compromising the integrity of the environment for future generations.

21-2. ITAM Goal.

In conjunction with DPW environmental land management programs, Range Branch will achieve optimum sustainment of its ranges and training lands by implementing Best Management Practices (BMP). These BMPs will integrate military training requirements with land capacity; inventory and monitoring land conditions following unit training; and then, implement land rehabilitation and/or reconfiguration to sustain the military lands.

21-3. Program Objectives

- a. Management of Training Lands: Integrate land stewardship with sustainable ranges and training sites.
- b. Biological Assessments: Perform biological assessments on the land quality and land carrying capacity; make recommendations on repairs and reconfiguration of the training sites; and implement remediation, and sustainment actions.
- c. Education: Educate unit leaders on land stewardship issues to minimize adverse impacts.
- d. GIS and Photomap Products: Provide a GIS capability that supports the Sustainable Range Program.
- e. Land Reconfiguration and Recovery: Provide training land remediation, reconfiguration, and maintenance to sustain the training areas for all-weather training activities.
- f. NEPA: Provide all NEPA support for the SRP activities.
- g. Coordination: Host a periodic Land Management Forum to discuss ITAM and Range Modernization and Maintenance activities plus unit training requirements with the DPTMS and the DPW ENV DIV.

21-4. Program Components.

The ITAM Program consists of four components:

- a. Training Requirements Integration (TRI). The training requirements are integrated with the natural resource conditions of the installation's lands to develop a land management sustainment program. The SRP identifies the training land and range requirements based on doctrine. The SRP also provides procedures by which range and training lands are managed on a day-to-day basis to support unit training requirements. The SRP defines the training requirement and training location of training facilities (e.g., ranges), which are needed to conduct training. TRI seeks to continuously balance training requirements with natural resource conditions by selecting options that will sustain use of lands indefinitely to support training readiness.
- b. Range and Training Land Analysis (RTLA). RTLA is a program for inventorying and monitoring the environmental conditions of the training lands and ranges.
- c. Land Rehabilitation and Maintenance (LRAM). LRAM includes programming, designing, executing land repair, and development based on requirements and priorities identified in the TRI/RTLA components of ITAM. LRAM uses best management practices (such as, professionally accepted, cost effective practices) for design and execution of projects affecting all environmental media to ensure that the rehabilitation, repair, and maintenance results are commensurate with the resources applied.

d. Sustainable Range Awareness. ITAM provides numerous products to support the SRP program. The most routinely issued products are the Range Book, the Training Area book, GIS maps, Range GIS maps, and the Military Installation Photomap. All products are located on the Fort Campbell Portal and AKO.

21-5. Unit Training Area Stewardship.

a. Field latrines and/or “cat holes” will not be dug within the Fort Campbell Training Complex. Units will use portable latrines. Units will coordinate thru DPW for portable latrine support.

b. Trash and training debris will be returned to the cantonment area and disposed of at convenience station within the cantonment area. All trash will be recovered from field training sites at the end of training.

c. Trees are a marketable crop managed by the Installation Forestry Branch. Units are not to cut mature trees. However, units may use scrub tree limbs for camouflage (i.e., sumac foliage, cedar, and pine).

d. Ft Campbell leases many of the open fields to area farmers. These fields are not off-limits to training. However, the farmers expend considerable time and money to harvest crops on these fields and are not reimbursed for training related crop damage. Minimize damage to fields with row-crops (i.e. corn and beans). There are acres of mowed grass around all the row-crop fields that are available for units to use. Row crop fields are fully available for training once the crops have been harvested. Drop Zones are managed as hay fields and are available for unit training at all times.

e. Low Water crossings have been installed adjacent to most of the bridges in the training areas. Unit vehicles that exceed the posted weight limits of the bridges will use the low water crossings. Maps of all the posted bridge classifications are available at the ITAM office.

f. Units that need to conduct berming or mechanically assisted excavations during their training exercises need to obtain a Dig Authorization Permit at the ITAM office prior to their training exercise. Units are required to fill in their excavations and reseed the area at the conclusion of their training. Units do not have to remain on site for an inspection. Due to the information on the Dig Authorization Permit, Range Operations/ITAM personnel will inspect the reseeded area. If there is a discrepancy in the unit recovery efforts, Range Branch will contact the unit. The ITAM office will issue a photomap of the area the units will be using for their dig/berming as part of their Dig Authorization Permit. These photomaps clearly identify the trails, wetlands, streams, and areas of concern for each training area. Any items detected during the berming/digging that are suspected as having archaeological or historical significance will not be disturbed. These detected items and location will be reported to the Fire Desk.

g. No training will be conducted inside cemetery fencing.

h. Vehicles will not be washed in streams.

i. Controlled burns of training areas are conducted year-round. Training areas will not be burned on days that units have scheduled and occupied a training area. If units detect a fire in their assigned training area or range they will notify the Fire Desk.

j. Units will notify the Fire Desk of any fuel spill in the training areas.

(1) Report Fuel Spills to the Fire Desk (798-3001) for spills that are greater than 10 gallons, are larger than 3 square feet, and/or that enter any water source. The Fire Desk will notify the Emergency 911 Center.

Stop the source of the fuel spill by plugging the leak.

(2) Primary effort is to protect water sources.

(3) Confine the spill with sandbags or booms.

(4) Use fuel spill kits to clean small spills and then deliver spoil to PPOC at 1st St and Wickham Ave.

(5) CLEAN UP THE SPILL. Under no circumstances should untrained and/or ill-equipped persons attempt to perform cleanup of large fuel spills. In some instances, spill cleanup may require respiratory protection and other personal protective equipment. Only soldiers with the proper training should participate in the cleanup of the spill. Spills that cannot be removed because of response delays may need to be covered with heavy plastic and secured to prevent further spread of contamination.

(6) DISPOSE OF SPILLED HAZARDOUS MATERIAL. All spilled material and other contaminated material (soil, gravel, absorbents, etc.) must be properly disposed. Some spill incidents may require cleanup, disposal, soil testing, and a site closure report by an approved licensed environmental contractor approved by Fort Campbell. DPW Environmental Division will determine the required cleanup and disposal method.

Chapter 22

Range Surface Clearing and Target Insertion/Maintenance Operations

22-1. Purpose

This Chapter disseminates procedures for surface clearing ranges and target insertions/maintenance. The Range Program Manager is the approval authority for all range surface clearing and target insertion operations.

22-2. General

- a. Report all accidents and incidents to the Fire Desk immediately or within 30 minutes.
- b. Range and impact area surface clearing operations are conducted periodically to clear a training facility of ordnance which has failed to explode. Clearing operations are usually undertaken when it is deemed necessary to use a range or impact area for training involving troops and/or equipment maneuvering across the site. Clearing operations identify and destroy potential and dangerous hazards to training.
- c. Surface clearing operations should only be considered during winter or early spring. The entire surface must be burned to expose ordnance laying on the surface of the ground. A clean burn cannot be obtained during summer or fall.
- d. All requests for range clearances, no matter how small the area, will be submitted in writing NLT 90 days prior to the start date of training. Requests must be sent to the Range Program Manager for action and coordination.
- e. Direct/detailed coordination between Range Operations, EOD, and the requester is required.
- f. Safety is paramount in any range surface clearance operation. All participants must be thoroughly familiar with prescribed safety procedures.
- g. Participants, especially key supervisors, will not be rotated throughout the entire period of range clearance operations. Specific delineation of responsibilities will be prescribed for all participants.

22-3. Scope

The procedures contained herein are applicable for all clearances no matter the terrain or levels of ordnance contamination.

22-4. Responsibilities

- a. Unit commanders will--
 - (1) Identify the specific geographical range area(s) to be cleared during the operation and request approval to clear through command channels.
 - (2) Ensure the availability of supplies, equipment, medical support, transportation, communications, demolition materials, as well as lodging and messing facilities, for all TDY range clearance personnel.
 - (3) Coordinate the suspension of training and firing in the area(s) to be cleared.
 - (4) Determine the officer to be assigned overall responsibility for the mission.
- b. Range Program Manager will--
 - (1) Reschedule training so there will be no firing or maneuvering in the area being cleared.
 - (2) Provide stakes for the staking parties.
 - (3) Coordinate the entry and departure of the troop unit conducting the range clearance into and out of the Impact Area.
 - (4) Coordinate with DPW (Forestry) for preparation and burning of tall grass and dense brush in the area(s) to be cleared.
 - (5) Coordinate with the Commander, 52nd Ordnance Group to ensure that adequate explosives are available to destroy duds which must be blown in place.
 - (6) Coordinate EOD personnel support requirements with 52nd Ordnance Group. A 90 day advance notice is required for EOD support.

22-5. Milestone Schedule

- a. Ninety days prior to clearance:
 - (1) Appoint project officer.
 - (2) Determine and define the area(s) to be cleared.
 - (3) Research range records/data to determine quantity and type of ordnance fired into the defined area(s).
 - (4) Request support from the area EOD Control Center for use of local resources and any additional personnel to augment the local detachment.
 - (5) Coordinate with the local EOD for technical advice/assistance.

- (6) Perform map, ground, and aerial reconnaissance to determine extent of explosive ordnance contamination, vegetation, and terrain.
- (7) Determine personnel, funding, equipment, and time requirements to accomplish the clearance operation.
- (8) Prepare the final plan for the range clearance operation.
- b. Forty-five days prior to clearance:
 - (1) Prepare maps depicting the areas of responsibility for searching groups, the CP, and the CP location.
 - (2) Prepare and disseminate all necessary operation orders to participating units for required personnel, equipment, administrative, logistical, and medical support.
 - (3) Develop class schedules for conducting explosive ordnance recognition and safety classes to be presented to the staff, searching parties, and collection point personnel.
 - (4) Arrange for the range to be burned to afford visibility for the searching party.
- c. Fifteen days prior to range clearance:
 - (1) EOD personnel conduct explosive recognition and safety classes for all staff, searching parties, and collection point personnel.
 - (2) Hold planning sessions as needed with the project OIC and staff, searching party OICs and NCOICs, collection point OICs and NCOICs, DRMO, and EOD representatives.
 - (3) Conduct reconnaissance of the assigned area(s) of search by OICs and NCOICs of searching teams, accompanied by EOD personnel.
- d. Five days prior to range clearance:
 - (1) EOD personnel augmenting the local Company detachment should begin arriving.
 - (2) All EOD personnel will receive classes on safety and the type(s) of ordnance expected to be found during the clearance operation. Procedures to be followed during demolition operations will be outlined.
 - (3) Assigned EOD teams will meet with individual searching team, collection point and DRMO personnel. A short dry run on a practice course is recommended.

22-6. Target Insertion and Maintenance

- a. Units requiring targets to be placed into the Impact Area MUST have EOD support. EOD personnel must escort the unit into the Impact Area, and clear the area where the targets will be placed. EOD support is also required for maintenance of targets in the Impact Area, i.e. heating of targets for firing or improving of targets.
- b. All requests for EOD support for targets in the Impact Area require a written memorandum to the Commander, EOD, THRU Installation Sustainable Range Program Manager. The Installation Sustainable Range Program Manager will annotate approval or disapproval of this request prior to consideration by EOD. Approval by Range Branch does not constitute acceptance of the mission by EOD.
- c. Requests for support of targets in the Impact Area require 45 days prior notice. Units may request for extended support if they will require multiple entries into the Impact Area.
- d. Requests under the 45 day cut off must be submitted by the first 0-6 in the requesting unit's chain of command. "FOR" signatures are unacceptable without assumption of command orders. Late requests will be denied without explanation.
- e. Range Operations will determine the location for the targets (8 digit grid), the number of targets, the types of targets, a detailed outline of the mission requirement, the number of personnel involved, any special logistical needs, safety requirements, meeting time for the mission, and point of contact.
- f. All personnel working in the Impact Area will wear ACH, IBA with plates installed, and safety glasses at all times. Failure to adhere to these safety regulations will result in cancellation of the mission.
- g. No deviations will be made to the request after it is approved, i.e. changing the location or number of targets, except if a safety concern arises during the mission. The EOD team leader for the mission will determine if any deviation to the mission is warranted due to safety.

Chapter 23 Airspace

23-1. Purpose

This Chapter describes how airspace will be managed and used on the Fort Campbell military reservation. This regulation in conjunction with CAM Regulation 95-1, Aviation Flight Regulation, and will provide essential air/ground de-confliction guidance.

23-2. General

This Chapter addresses the full range of airspace management and use.

23-3. Restricted Areas

- a. The Fort Campbell reservation has two restricted air space areas: R3701A and R3702
 - (1) Restricted Area 3701A (surface to 5000 feet) encompasses the Small Arms Impact Area.
 - (2) R3702
 - (a) Restricted Area 3702A (surface to 10,000 feet over remainder of reservation) will be activated when small arms, mortars, artillery, ADA (RC MAT), tanks, aerial gunnery, TAC Air, Raven and Shadow UASs, or Airborne operations are scheduled.
 - (b) Restricted Area 3702B (10,001 to 22,000 feet) will be activated when mortars and artillery, MLRS, Hellfire, Copperhead, Shadow UAS, or Airborne operations are scheduled.
 - (c) Restricted Area 3702C (22,001 to 27,000 feet). When the maximum ordnance dictates the need for higher altitudes, Restricted Area 3702C will be activated. This area is normally required when 155mm high angle artillery fire or the Copperhead is scheduled.
- b. Range Safety will reserve Restricted Area 3702C at least 72 hours in advance. Restricted areas will be activated through Eagle Radio at least 60 minutes prior to scheduled use on a daily basis.
- c. Range Safety will notify Eagle Radio of hazardous conditions (firing activities, demolitions, etc.) within R3701 and R3702. Eagle Radio also will be notified when the status is changed (i.e., an FP or training area goes from "HOT" to "Cold").
- d. Range Safety has established Restricted Operating Zones (ROZ) for artillery fire. A 500 meter circle is plotted for high angle fire and a 1000 meter circle is used for low angle fire. There is no over-flight of these areas and they will be avoided by aircraft while artillery units are firing. The procedures for establishing and controlling a ROZ are contained in Chapter 11.

23-4. Danger Areas

- a. The installation danger areas include Small Arms Impact Area, North Impact Area, and South Impact Area. Units that conduct demolition in training areas may require a NOTAM 10 days prior to training event. Over flight of these areas during activation is prohibited.
- b. Helicopter Pilot in Command (PIC) will draw a circle of 1000 meters in diameter oriented around active FP's and OP's firing into the Impact Area. Helicopters will not fly inside this circle. FP's and OP's occupied and not under check fire are considered active. PIC is responsible for obtaining positive contact with the range OP or FP OIC prior to entry. Aviators will be notified of any active ROZ by Eagle Radio.

23-5. Notice To Airmen (NOTAM)

- a. Fort Campbell Regulation 95-1 is the proponent for all NOTAM requests. As a general rule, if you are conducting ANY activity that may affect the airspace, a NOTAM request should be submitted.
- b. Units performing an activity that will require a NOTAM will submit a NOTAM request to G3 AVN using the NOTAM request. A memo can be found on the G3 AVN portal at least 10 duty days prior to conducting the activity. If the unit requires land, units are required to submit a Range Packet to Range Safety IAW Chapter 2 of this regulation.
- c. If land is required, the unit will provide G3 AVN with the approved Request Control Number Identifier (RCNI)* or a printout from RFMSS, stamped approved, and attached to the NOTAM request memo.
****NOTE: An RCNI is a specific reference number assigned by RFMSS in two phases: pending and approved.***
- d. In the absence of G3 AVN, Range Scheduling will publish Local NOTAMs weekly.
- e. Eagle Radio, located at the ARAC Facility, provides an advisory service for R3701A and R3702. Eagle Radio frequencies are UHF 285.6250, VHF 139.90 and FM 65.20. To confirm frequencies call Eagle Preflight at 798-2967.
- f. Eagle Radio duties and responsibilities are outlined in CAM Regulation 95-1.

23-6. Flight following

Flight following procedures are outlined in CAM Regulation 95-1.

23-7. Airspace Management/Training Sectors

a. Purpose. To outline procedures and assign responsibilities for scheduling airspace 900 feet MSL to the surface over the Fort Campbell reservation.

b. General. Range Scheduling manages the airspace described over the reservation. This allows units to schedule sectors of airspace over the reservation for exclusive, brigade, or joint use while participating in exercises.

Procedures for scheduling these sectors of airspace are similar to methods in which other training resources are scheduled at Fort Campbell and are set forth below. The forum for airspace scheduling decisions will be the RAC.

c. Procedures.

(1) Refer to CAM Regulation 95-1 for Airspace training sectors

(2) Scheduling process.

(a) Overall supervisory responsibility for scheduling of airspace will be the responsibility of Range Scheduling. Each MUC and separate battalion should identify a planner to handle airspace management for their unit (normally the S3 Air) to coordinate airspace with the scheduler.

(b) Training Division convenes the IRAC 14 weeks prior to QTR for the upcoming training cycle. Artillery firing units submit TA's, FP's, and Air sector requirements at this meeting. ATRC meets 12-9 weeks prior to QTR. ATRC incorporates firing unit information into ATRC and aviation is aware of possible conflicts. Seven weeks prior to QTR, at the RAC, units finalize TA's and FP's for training exercises. Thirty days prior, aviation unit needs TA's, Unit POC & CONOPS, and firing unit submits proposed ROZ information. Ten days prior, firing unit finalizes range safety data, aviation units check portal, and incorporates firing unit data into their planning. On the day of training, firing unit opens TA/FP, and the Fire Desk advises Eagle Radio of the location and type of training that will affect airspace. Eagle Radio ensures pilots have information, and pilots check in/on station to receive opening data.

(c) Cancellations or early ENDEX must be coordinated with Range Branch. Units failing to close with the Fire Desk will remain responsible for airspace management in their sectors until the scheduled dates have expired.

(d) Priority for scheduling airspace will be established by the G3 in accordance with the priorities established for training in CAM Regulation 350-1.

d. Responsibilities.

Range Branch will:

(1) Overall supervision of airspace management and scheduling process.

(2) Convene cyclic RAC to lock in sector scheduling for the next allocation period and to plan airspace requirements for the following months. Present results at the RAC and present any conflicts requiring resolution.

(3) Monitor airspace scheduling and disseminate changes as required.

(4) Coordinate airspace management issues with users, Eagle Radio, and G3 Air.

(5) Submit requirements so as to meet RAC suspense, G3/S3 conference suspense, and NOTAM suspense.

(6) De-conflict air and ground scheduling at cyclic RAC and G3/S3 Conference.

Chapter 24

U.S. Air Force Use of Fort Campbell Ranges

24-1. General

a. Tactical exercises frequently require the use of live ordnance in armament fire power displays and/or in aerial delivery operations. Proper control in the use of live ordnance munitions is imperative.

b. This Chapter establishes responsibilities and prescribes procedures and requirements necessary to ensure the maximum degree of operational safety for the employment of USAF aircraft delivering ordnance in the Fort Campbell tactical weapons range areas.

c. Using commanders will ensure a thorough knowledge of this regulation by all aircrews involved with aircraft operations at Fort Campbell.

24-2. Scheduling

Requests for range periods will be submitted by the fighter units to the Division Air Liaison Officer (ALE AV 956-1302/1366 DSN 363) in accordance with the procedures outlined in Chapter 2 of this regulation.

24-3. Procedures

a. Loading and arming of aircraft at Fort Campbell will be in accordance applicable fighter unit directives.

b. Supersonic flight within R3702 is not authorized.

c. USAF tactical aircraft will operate in the Fort Campbell range areas in accordance with AFI 11-214.

d. Tactical weapons range procedures are as follows:

(1) Traffic control outside of R3702 and Fort Campbell Military Operational Areas (MOAs) 1 and 2 will be in accordance with flight information publication documents and federal aviation regulations.

(2) The Fort Campbell airspace complex consists of the Fort Campbell MOAs 1 and 2 and the restricted areas R3701 and R3702. MOAs 1 and 2 are controlled by Campbell Approach/Eagle Radio. Flights are to file IFR (with VFR delay in the MOAs) to the appropriate arrival/departure point. Fighters will check in and out of the MOAs with Campbell Approach and squawk the transponder code assigned by Campbell Approach while operating in MOAs. Entry into the MOAs is not clearance to enter into the restricted area R3702.

(3) Fighter aircraft will request clearance to enter restricted airspace from Eagle Radio. Eagle Radio will obtain the clearance from the Fire Desk and relay to the aircraft.

(4) A certified 19th ASOS person will be with the Range OIC or will be the Range OIC and will accomplish range OIC duties as outlined in this regulation, to include ensuring that all WDZ s are approved by the Range Safety at least 10 days prior (16 days prior if target operator is required) to the actual employment of weapons. Tactical control of the fighters may be determined by the exercise scenario.

(5) Targets and munitions. Targets and the weapons to be used will be approved on a case-by-case basis by Range Safety after reviewing the WDZ Diagram for each weapon system. Minimum safe separation distances will not be less than those listed in AFI 11-214. Each WDZ will have, as a minimum, run-in headings, location of target (minimum 8 digit grid and lat/long recommended), type of ammunition, location of all personnel, and pull off restrictions. The senior JTAC has overall responsibility for the safe employment of USAF assets.

e. Emergency Procedures.

(1) If an emergency develops, an attempt will be made to expend remaining ordnance prior to departing the range, safety permitting.

(2) If possible, the JTAC will notify both Eagle Radio (UHF 285.625 or VHF 139.90) and the deployed detachment SOF of the nature of the emergency and intended actions.

(3) The weapons jettison area is the center 1 kilometer grid square of the tactical range DF350587 or N36 degrees, 40.2', W087 degrees, 43.5'. From Campbell Army Airfield (CAAF), heading 270 degrees, 11.3 nautical miles or from AIRBE NDB bearing 258 degrees 16.4 nautical miles.

(4) In the event a weapon is inadvertently released, accidentally fired, or misfired, all weapons delivery will terminate and the Fire Desk will be notified giving coordinates, type of weapons involved, and type and quantity of ordnance. All known/suspected duds will be reported with an 8 digit grid location. Aircraft involved will be flown to home base or CAAF via hot gun routes and impounded in accordance with home base procedures.

(5) Aircraft losing communications will comply with the appropriate 55-series manual(s) and FARs concerning radio-out procedures. No ordnance will be expended without radio contact with the JTAC.

24-4. Safety Precautions for Use of Live Ordnance

a. When live ordnance is used, safety precautions must be taken to provide protection for spectators, equipment, and delivery aircraft. The following rules apply:

(1) Coordinate as early as practical with the appropriate division/brigade ALO, 19 ASOS. On request, 19 ASOS will provide WDZs and information on minimum safe distances from target to observers for all training and live munitions usable in the Fort Campbell Impact Areas.

(2) Emergency jettison areas will be designated whenever live ordnance is carried in exercises/demonstrations. Live ordnance will be jettisoned in a 'safe' condition unless otherwise briefed. Type of ordnance, time of drop, and location of Impact Area will be furnished to explosive ordnance disposal personnel as soon as practical.

b. Air Force commanders are responsible for establishing up-to-date "hot gun" routes for aircraft carrying live ordnance. Routes will be selected to avoid centers of population. Procedures will be established that ensure minimum chance of inadvertent release of live/armed ordnance over human habitation or assemblies of personnel.

Chapter 25 Ammunition

25-1. General

- a. Report all accidents and incidents to the Fire Desk immediately, but not later than 30 minutes.
- b. This Chapter explains and emphasizes local safety rules and regulatory requirements for handling, field storing, and firing ammunition.

25-2. Ammunition Handling

- a. For all ammunition handling procedures refer to Quality Assurance Specialist Ammunition Surveillance (QASAS) located at Fort Campbell's Ammunition Supply Point (ASP). Refer to CAM Reg 700-2 Conventional Ammunition .
- b. Prior to the establishment of field ASP on Ft. Campbell ranges, FPs, or OPs, units will notify QASAS to schedule a walkthrough of the proposed site and conduct an informal inspection prior to set up. A formal inspection is required upon completion of the ASP. The range OIC will ensure that SOPs for safe handling and storage of ammunition in the field are prepared and present during range training exercises. Assistance in preparing SOPs may be obtained by contacting QASAS.
- c. Range Safety.
 - (1) Weapon system(s) FMs and TMs must be available at the firing site. They contain the necessary detailed handling instructions for specific weapons and ammunition items including misfire procedures.
 - (2) The Range OIC must be familiar with the range safety criteria and information regarding handling, transporting, and storing ammunition at the training site.
 - (3) When a Unit is issued ammunition from the ASP, they need to look at the issue documents for special restrictions and or safety information for the ammunition they are firing. Copies of all restrictions and information notices are provided to the Units at the time of issue.
 - (4) Ammunition packages should not be opened until it is required to support training. Ammunition turn-in to the ASP with components missing is unserviceable. A report of survey will be directed for excessive amounts of unserviceable ammunition being turned in.
 - (5) Field ASP must be part of the Range Packet and the location must be approved by QASAS prior to executing.

25-3. Ammunition Firing Restrictions

- a. 40mm Ammunition.
 - (1) Due to a high dud rate of 40mm grenades, HE/HEPD grenades fired from hand-held weapons will only be fired on Ranges 26A and 26B.
 - (2) EOD and Range Operations will insert targets into Ranges 25A, 26A, 26B, and 47.
 - (3) OICs will ensure no 40mm HE/HEDP ammunition is fired at targets closer than 130 meters.
- b. Restrictions on firing imposed by the burn index may be found in table 3-2.
- c. Small Arms Ammunition. If live rounds are found packed in a box marked 'blank,' it is a CRITICAL defect. If blank rounds are discovered in a box marked 'ball' or 'tracer' ammunition, it is a MAJOR defect. In either case, call a cease fire, locate and retain the seals removed from the can (s) and/or box (s) from which the rounds were removed, immediately contact the Fire Desk by phone or radio, and request that QASAS be notified immediately. QASAS will visit the site and perform an investigation of the incident.
- d. Ammunition Found on Post.
 - (1) When ammunition above .50 caliber is found outside an Impact Area, it will not be touched. Safely mark the location. The location, quantity, type of ammunition (if known), and point of contact will be reported to the Fire Desk by phone or radio.
 - (2) When ammunition of .50 caliber or below is found on a range or in a non-designated area anywhere on post, it may be turned in to the ASP during normal business hours on a "no questions asked" turn-in basis. QASAS will be contacted after duty hours.

25-4. Malfunction Reporting

- a. Units having ammunition malfunctions will complete DA FORM 4379, APR 01 and turn it in to Range Safety or give it to QASAS if an inspection is required. An inspection will be required if an incident involving ammunition occurs. An incident would include damage to weapon or injury to personnel.
- b. When a reportable malfunction has occurred, the OIC or RSO will immediately report the following information by phone or radio to the Fire Desk:
 - (1) Type of event (dud, hang-fire, erratic round, etc.) and whether or not the event resulted in personal injury or damage to property.
 - (2) Name and rank of the individual making this report.
 - (3) Complete unit identification.
 - (4) Location of malfunction (range and/or coordinates).
 - (5) Weapon identification.
- (a) Type.

- (b) Manufacturer (if known).
- (c) Serial number.
- (6) Ammunition.
 - (a) Nomenclature and model number.
 - (b) National stock number (NSN) (if known).
 - (c) DODIC and Lot number.
- (7) Total rounds fired from the same weapon prior to the malfunction.
- (8) Total number of misfires/duds.
- (9) Any other pertinent information.
- c. DA FORM 4379, requests the data needed to be reported to higher headquarters by the QASAS.
- d. DA FORM 4379-1, is prepared for all malfunctioned missiles or rockets.

25-5. Defective/Altered Ammunition

- a. Any alteration of loaded ammunition, such as increasing the amount of propellant, is prohibited.
- b. Small arms ammunition will be inspected immediately prior to issue to the firing line to ensure appropriate, serviceable ammunition is issued (i.e., ball is not issued for blank). Evidence of defects, such as burrs, scratches, or lacquer missing at the mouth end of blank cartridges, will not be used.
- c. Defective ammunition will be set aside and reported to the QASAS immediately.

25-6. Temporary Vehicle Holding Area

- a. A 72-hour vehicle holding area located within the ammunition storage area is available for use by the using units. Arrangements for use can be made at the ASP during duty hours.
- b. Due to the unavailability of certain security requirements, Category I (ready to fire configured rockets and missiles) and Category II (rifle and hand fragmentation grenades and demolition items weighing less than 50 pounds) cannot be stored in this area at any time.
- c. Detailed information regarding use of this area is contained in DA PAM 385-64.

25-7. Field Storage Security

- a. Storage Guidance. (Figure 25-1) Guidance for storing small quantities of ammunition at the firing site is provided in Cam Reg 700-2.
- b. Security Requirements. All ammunition items, including Categories I and II items, may be stored overnight in the field provided the following general requirements are met:
 - (1) The site is completely contained within a concertina wire barrier at least two strands high.
 - (2) Sufficient lighting is present to preclude entry by unauthorized persons at night. (This may be accomplished using portable flood lights or vehicle headlights when an electrical power source is not available).
 - (3) A one-entry access point is established and an access roster maintained identifying those who are authorized entry. Additional security requirements to be met are contained in AR 190-11.
 - (4) Any time Hazard Class 1.1 or 1.2 munitions are to be stored in the field there has to be a minimum 1250 foot arc around the field ASP that must remain clear of all non-ammunition mission related items.

This policy applies to all units training on Fort Campbell. For questions, contact the Range Safety or the QASAS.

- a. Safe handling of ammunition stocks, containers will not be dropped, tumbled, dragged, thrown, rolled, or walked.
- b. Suitable containers for small, loose ammunition items (i.e., detonators, initiators, squibs, electrically actuated devices, blasting caps) - NOT CARRIED IN POCKETS.
- c. Cigarette lighters not carried into ammunition field storage area.
- d. NO SMOKING' signs present.
- e. No accumulation of packing material, dunnage, oily rags, and likely combustibles within the ammunition field storage area.
- f. Ammunition field storage area SOP is present.
- g. Guards on duty at ammunition field storage area.
- h. Ammunition is stacked by lot number in stacks arranged for free circulation of air.
- i. Ammunition is covered to protect it from the elements.
- j. Adequate dunnage on ground to support ammunition.
- k. Two working 10 lb BC or ABC fire extinguishers present.
- l. Completed DD Form 626 for vehicles used to transport ammunition during field training. (FM 4-30.13).
- m. Range guards present
- n. Red flag displayed at the range entrance when firing.
- o. Red flags on vehicles, tanks, and armored personnel carriers when firing.
- p. Unpacking of ammunition is limited to the minimum number of rounds needed for efficient firing exercise.
- q. Range communication system available and operative.

Figure 25-1. Field Storage Checklist
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25-8. Explosive Site Plan at the Ammunition Supply Point

Commanders will ensure that soldiers within their command are aware of and will not enter or train within the ASP explosives safety arc marked on the specially prepared map (see figure 25-2).

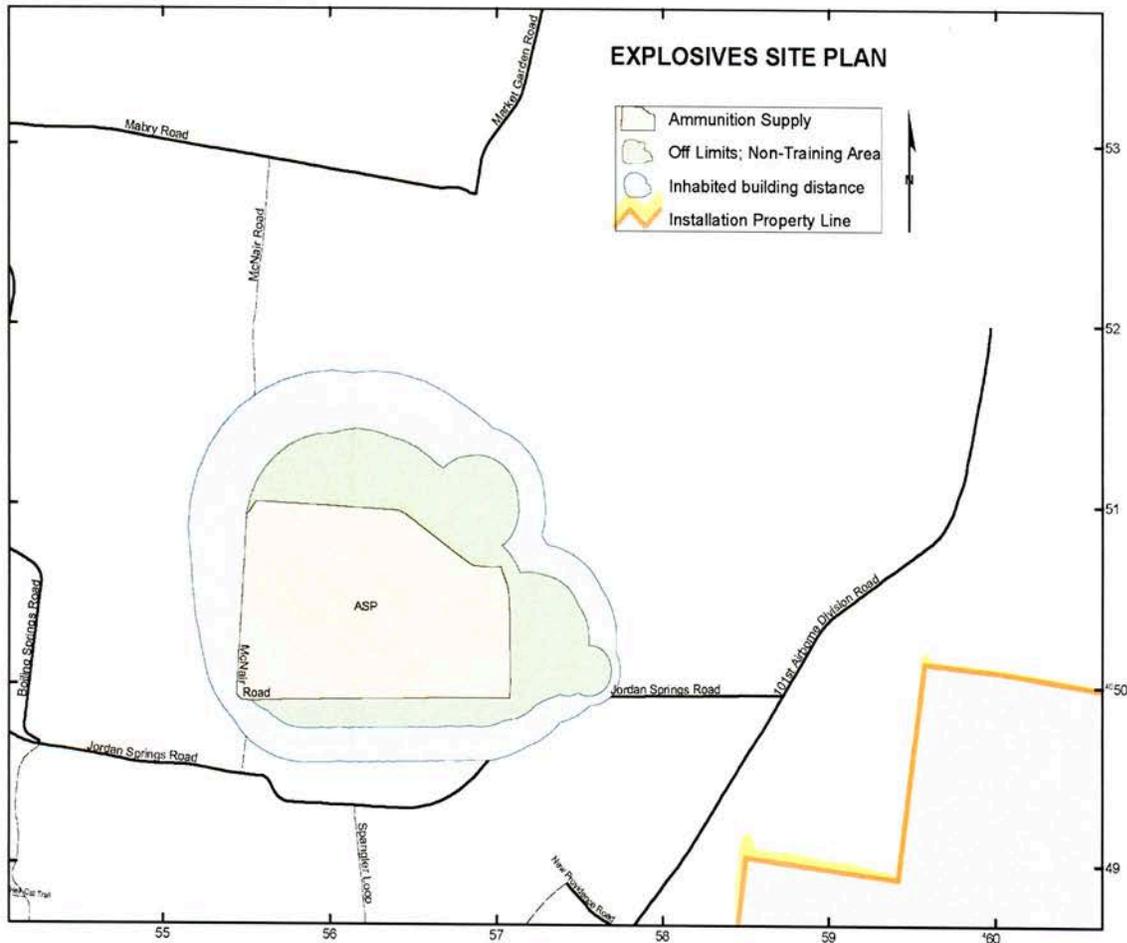


Figure 25-2. Explosive Site Plan For ASP

Chapter 26

Tactical Unmanned Aerial Systems (TUAS)

26-1. General

Installation commanders having Army TUAS assigned, attached, or tenant to their commands will prepare and publish local flying rules. Rules will include the use of tactical training and maintenance flight areas, arrival and departure routes, and airspace restrictions as appropriate to control TUAS operations in their local flying areas. This regulation in conjunction with CAM Regulation 95-1 and the 101st Airborne Division Unmanned Aerial Tactical Operating Procedures will provide the rules required.

- Small TUAS includes Ravens, PUMAs, WASPs
- Large TUAS includes Shadows.
- Larger TUAS includes Grey Eagle.

****WARNING: Failure to coordinate launch and recovery of all TUAS Systems with Eagle Radio will result in Mid Air Collisions with Army Tactical Aircraft Mid Air Collisions will result in significant damage to Army Aircraft and Potential Loss of Life.****

26-2. Procedures

- a. Range Branch Procedures and Responsibilities:
 - (1) Maintain Range Branch Net to ensure radio communications from activation to termination.
 - (2) Schedule and de-conflict TUAS and Artillery airspace requests.
 - (3) Notify Eagle Radio if radio communication is lost with ground operators.
 - (4) Notify TUAS operators if Eagle Radio loses radio contact
- b. Eagle Radio Procedures and Responsibilities:
 - (1) Maintain radio communications with the TUAS ground operators from 30 minutes prior to launch until termination
 - (2) Notify all aircraft by transmitting pertinent information on the Range Information Service (Eagle Air Traffic Information System (ATIS)) and making blanket broadcasts on all frequencies.
 - (3) Eagle Radio shall provide procedural and altitude separation between the TUAS and all other aircraft from launch until termination of the flight
 - (4) Provide current weather, altimeter and transponder code for the TUAS flight
- c. TUAS Ground Operators procedures and Responsibilities:
 - (1) Submit NOTAM request to G3 Aviation a minimum of 10 days prior to operations.
 - (2) TUAS and FA units training at Fort Campbell will adhere to a fixed training schedule for TUAS launch and recovery and field artillery firing when TALS ROZs and field artillery SDZs are in conflict. When this conflict exists, TUAS will have priority for 30 minutes after each even numbered hour for launch and recovery. Example: 0800-0830, 1000-1030, etc. Artillery units will then have priority for the hour for the other 90 minutes in between even numbered hours for uninterrupted firing . Example: 0831-0959, 1031-1159, etc.
 - (3) TUAS missions shall avoid over flight of mortar or artillery firing points and any other munition firing point/range which could inadvertently down the TUAS.
 - (4) TUAS will also not fly within the SDZ of weapon systems unless prior coordination has been made to de-conflict, utilizing altitude separation.
 - (5) TUAS and FA units training at Fort Campbell will adhere to a fixed training schedule for TUAS launch and recovery and field artillery firing when Tactical Automated Landing System (TALS) ROZs and field artillery firing points and gun target lines (GTLs) are in conflict. When this conflict exists, TUAS will have priority for 30 minutes, after each even numbered hour for launch and recovery. Example: 0800-0830, 1000-1030, etc. Artillery units will then have priority for the other 90 minutes in between even numbered hours for uninterrupted firing. Example: 0831-0959, 1031-1159, etc.
 - (6) Notify Eagle Radio and the Fire Desk ten minutes prior to recovery to Range 71 and Range 75. This will permit rerouting and holding of manned aircraft and reduce delays. TALS holding patterns shall be entered at the altitude issued by Eagle Radio.
 - (7) Inform Eagle Radio and the Fire Desk of TUAS landing.
 - (8) Terminate TUAS operations if radio contact is lost with either Eagle Radio or the Fire Desk for more than ten minutes. BCT TUAS Mission Control Station personnel may attempt to re-establish radio communications for ten minutes prior to executing recovery through the remaining radio communication channel(s).
 - (9) Maintain radio communications with the Fire Desk from activation of the airspace until termination of all training.
 - (10) Establish radio communications with Eagle Radio 30 minutes prior to launch. Verify weather, set altimeter, set transponder to assigned squawk code and input GPS flight route.
 - (11) Notify Eagle Radio 10 minutes prior to launch for clearance to launch.
 - (12) Notify Eagle Radio 10 minutes prior to the TUAS entering the TALS holding pattern for landing
 - (13) Notify Eagle Radio when the UAS has landed
 - (14) Terminate TUAS operations if radio contact is lost with either Eagle Radio or the Fire Desk for more than 10 minutes.
 - (15) Notify the Fire Desk if TUAS goes down in the Impact Area. NO unit will attempt to recover TUAS from the impact area.
- d. Authorized areas for small TUAS activity are ROZs 1-6, IAW CAM Reg 95-1.

27. Proponent

The proponent of this regulation is the Director of DPTMS; attn: DPTMS-PL.

MARK R. STAMMER
Brigadier General, USA
Commanding

Official:



Jeffrey W. Jaeger
Director, Mission Support Element

DISTRIBUTION:
INTRANET

**Appendix A
References**

101st Airborne Division (Air Assault) ASOP

101st Airborne Division (Air Assault) Sabalauski Air Assault School Handbook

101st Airborne Division (Air Assault) Gold Book

101st Airborne Division (Air Assault) Sabalauski Pathfinder School Handbook

AFI 11-214

Aircrew, Weapons Director, and Terminal Attack Controller Procedures for Air Operations

ANSI Z136.1

Safe Use of Lasers

AR 75-1

Malfunctions Involving Ammunition and Explosives

AR 75-15

Policy for Explosive Ordnance Disposal

AR 95-23

Unmanned Aircraft System Flight Regulations

AR 190-11

Physical Security of Arms, Ammunition, and Explosives

AR 350-19

Army Sustainable Range Program

AR 385-10

The Army Safety Program

AR 385-40

Army Accident Investigations and Reporting

AR 385-63

Range Safety

AR 385-64

U.S. Army Explosives Safety Program

AR 710-2

Supply Policy Below the National Level

USASOC Regulation 350-2

Airborne Operations

USASOC Regulation 385-1

Accident Prevention and Reporting

CAM Regulation 190-1

Fort Campbell Physical Security Program

CAM Regulation 350-1

Fort Campbell Training Directive

CAM Regulation 385-2

Investigation of Serious Accidents

CAM Regulation 420-14

Field Latrines

CAM Regulation 700-2

Conventional Ammunition

CAM Regulation 95-1

Fort Campbell Flight Regulation

DA Pamphlet 385-40

Army Accident Investigation and Reporting

DA Pamphlet 385-63

Range Safety

DA Pamphlet 385-64

Ammunition and Explosives Safety Standards

FM 3-01.11

Air Defense Artillery Reference Handbook

FM 3-01.60

Counter-Rocket, Artillery, and Mortar Operations

FM 3-04.140

Aviation Gunnery

FM 3-05.210

Special Forces Air Operations

FM 3-05.211

Special Forces Military Free-Fall Parachuting Operations

FM 3-06

Urban Operations

FM 3-06.1

Aviation Urban Operations Multi-service Tactics, Techniques, and Procedures for Aviation Urban Operations

FM 3-06.11

Combined Arms Operations in Urban Terrain

FM 3-09.8

Field Artillery Gunnery

FM 3-11

Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Defense Operations

FM 3-20.12

Tank Gunnery (Abrams)

FM 3-20.8

Scout Gunnery

FM 3-22.27

MK19 40mm Grenade Machine Gun MOD 3 Change 1

FM 3-22.31

40mm Grenade Launcher M203

FM 3-22.34

TOW Weapon System

FM 3-22.40

Multi-service Tactics, Techniques, and Procedures for the Tactical Employment of Nonlethal Weapons

FM 3-22.65

Browning Machine Gun, Caliber .50 HB, M2 Change 1

FM 3-22.68

Crew Served Weapons

FM 3-22.9

Rifle Marksmanship, M16-/M4-Series Weapons

FM 3-22.90

Mortars

FM 3-23.25

Shoulder-Launched Munitions

FM 3-23.30

Grenades and Pyrotechnic Signals Change 1

FM 3-23.35

Combat Training with Pistols, M9 and M11 (Incl C-1 Thru C-4)

FM 3-34.214

Explosives and Demolitions

FM 5-19

Composite Risk Management

FM 21-18

Foot Marches

FM 21-75

Combat Skills of the Soldier

FM 23-23

Antipersonnel Mine M18A1 and M18 (Claymore) Change 1

FM 44-18

Air Defense Artillery Employment, Stinger (How to Fight) Change 1

FM 44-44

Avenger Platoon, Section, and Squad Operations

MIL-HNDBK-828A

Department of Defense Handbook on Laser Safety on Ranges and in Other Outdoor Areas

TB MED 524

Occupational and Environmental Health

TC 7-21-10

Infantry and Weapons Company Guide to Training Aids, Devices, Simulators and Simulations

TC 21-305-2

Training Program for Night Vision Goggle Driving Operations

TC 23-13

Crew-Served Weapon Night Vision Sight

TC 25-8

Training Ranges

TC 25-8-1

Army Special Operations Forces Training Ranges

TC 34-212

Unmanned Aerial Vehicle Aircrew Training Manual

TC 90-1

Training for Urban Operations

TM 10-1670-262-12

Personnel Insertion/Extractions Systems for STABO

Appendix B
Air Medical Evacuation (Aeromedevac) Request Procedures

B-1. Purpose

Establish AEROMEDEVAC procedures for life threatening illness or injury to personnel.

B-2. General

This appendix provides information concerning AEROMEDEVAC requests through the Fire Desk. The AEROMEDEVAC support for Fort Campbell is contracted with local Vanderbilt Lifeflight. Units are advised that response times vary for this support and must plan for alternate MEDEVAC within the medical plans for all training exercises.

B-3. Procedures

- a. Contact the Fire Desk. In the event of illness or injury to personnel requiring MEDEVAC, units will:
 - (1) Telephone. Dial Fire Desk, 798-3001/4122
 - (2) Radio. Units/individuals requesting a MEDEVAC will contact the Fire Desk on frequency 71.25 (primary) or frequency 49.90 (alternate).
- b. Units/individuals will provide the Fire Desk with the following information:
 - (1) Location of pick-up site (8 digit grid)
 - (2) Radio frequency, call sign, and suffix.
 - (3) Number of patients by precedence.
 - (4) Special equipment required.
 - (5) Number of patients by type.
 - (6) Security of PZ. (if necessary)
 - (7) Method of marking PZ.
 - (8) Patient's nationality and status. (if necessary)
 - (9) Terrain
- c. Once the AEROMEDEVAC helicopter is enroute, the Fire Desk will notify the requesting unit/individual and provide the AEROMEDEVAC call sign (e.g., "Life Flight. .").
- d. Requesting unit/individuals will keep the Fire Desk informed concerning the status of the casualty (ies) and notify the Fire Desk when the helicopter has lifted off with the casualty(ies).

Appendix C

Range Deviations

C-1. Purpose

This appendix provides information about the range deviations currently authorized at Fort Campbell.

C-2. General

Fort Campbell currently has 5 range deviations approved by the Commanding General.

a. Range Deviation for Firing 7.62 118 L/R ammunition on Ranges 4, 10, 11, 14, 16, 26, and 36A.

(1) Permission is granted to fire the 7.62 118 L/R ammunition on the specified ranges provided the following conditions are met:

(a) Range Officer In Charge (OIC) and Safety Officers (RSO) will attend a special range briefing provided by Range Safety, prior to assuming duties on the range.

(b) The participating unit must conduct closely supervised training and ensure that a one-to-one student/coach ratio is maintained. Range OIC/SO must brief all firers and coaches on maintaining muzzle elevation of 10 degrees or less.

(c) Weapons are fired at an angle of 5 degrees or less from the tower at Range 4.

(d) Only stationary firing, no automatic firing or aerial target engagements will be conducted.

(2) Units failing to meet the above requirements are in violation of this deviation and are therefore firing without authority.

b. Range Deviation for Firing 5.56mm ammunition on Range 2A

(1) Permission is granted to fire 5.56mm ammunition on Range 2A provided the following conditions are met:

(a) Range Officer in Charge (OIC) and Safety Officers (SO) will brief all individuals on the content of this deviation prior to firing live ammunition at Range 2A.

(b) The participating unit must conduct closely supervised training and ensure that a four-to-one student/coach ratio is maintained. Range OIC/RSO must brief all firers and coaches on maintaining muzzle elevation below the top of the berm.

(c) Any weapon fired above berm level will cause an immediate cease fire called in the Fire Desk and an investigation will be initiated by the using unit, Range Safety, and Installation Command Safety.

(d) Only stationary firing and quick fire is authorized. No aerial target engagements will be conducted.

(2) Units failing to meet the above requirements are in violation of this deviation and are therefore firing without authority.

c. Range Deviation for Firing A191 .300 Winchester Magnum Cartridge, AB43 MK248 MOD1, and .338 Lapua Magnum Ammunition on Ranges 4, 10, 11, 12, 14, 16, 26, and 31.

(1) Permission is granted to fire the A191 .300 Winchester Magnum Cartridge, AB43 MK248 MOD1, and .388 Lapua Magnum ammunition on the specified ranges provided the following conditions are met:

(a) Range Officer In Charge (OIC) and Safety Officers (SO) will attend a special range briefing provided by Range Safety, prior to assuming duties on the range.

(b) The participating unit must conduct closely supervised training and ensure that a one-to-one student/coach ratio is maintained. Range OIC/SO must brief all firers and coaches on maintaining muzzle elevation of 5 degrees or less.

(c) Only stationary firing, no automatic firing or aerial target engagements will be conducted.

(2) Units failing to meet the above requirements are in violation of this deviation and are therefore firing without authority.

d. Omni-Directional Deviation for Range 3A, 17A, 27A, and 38, 44A, and 44C Live Fire Shooting Houses.

(1) Approval is granted to fire 5.56mm, 9mm, .45 cal, .22 cal, SRTA, CCMCK, 12 gauge shotgun with size 6-9 bird shot and / or breaching ammunition, and demolition charges not exceeding .27 lb., 360 degrees inside the building and rooms of the Live Fire Shooting House provided that:

(a) No weapons fired at targets unless they are backed by bullet traps approved by Range Safety.

(b) No tracer ammunition, fragmentation, flash bang, or concussion grenades, or flame producing pyrotechnics are employed inside/outside of the building or rooms.

(c) Range Land Manager will brief the Range OIC on placement of targets inside the rooms/buildings to control the direction of fire.

(d) Not more than one maneuver element with common scheme of maneuver and command and control is employed at one time. Clearing building with multiple teams from multiple entry points is defined as high risk

training, but is permitted if a control plan is established and training approved by the Brigade Commander. This will be required to be specifically addressed in the unit's risk assessment and written on the risk assessment form.

(e) Units Officer in Charge (OIC) and Safety Officer/s (SO) receive an onsite briefing (range walk) by the appropriate range land manager before live firing on the range.

(f) Supervision and control is provided by unit OIC. A copy of this deviation and the Range Instructions for Shooting Houses will be in the possession of the OIC and SO at all times while on the range.

(2) All personnel participating in or observing live fire training in the shooting house will wear interceptor body armor (with ballistic plates installed), ballistic helmet, ballistic eye protective, gloves, and hearing protection.

(3) In the event of an accident or incident arising from the use of the Live Fire Shooting House under waiver conditions, the deviation becomes invalid until it has been reinstated by the issuing authority.

(4) If any round impact above the 8 feet marked RED line on the walls, training will immediately cease and the Fire Desk notified. The range will remain closed until Range Safety and Command Safety complete their investigations and the Commanding General re-issues the deviation.

(5) Units failing to meet the above requirements are in violation of this deviation and are therefore firing without authority.

e. Omni-Directional Deviation for Range 51 Two Story Shoot House

(1) I grant approval to fire 5.56 mm, 9mm, .45 cal., .22 cal, shotgun, CCMCK, SRТА, and small demolition charges, not exceeding .27 lb., 360 degrees inside the Range 51, Two-Story Shoot House provided that:

(a) No weapons fired at targets above 6 feet.

(b) No tracer ammunition, fragmentation or concussion grenades employed inside/outside of the building or room.

(c) Target placement IAW Range 51 Training Complex SOP and only by instructors/trainers qualified IAW USASOC Reg. 385-1, Chapter 7-1, paragraph D, or similar USAJFKSWCS recognized course of instruction.

(d) The Officer in Charge (OIC) and Range Safety Officer (RSO) provide supervision and control. The OIC and RSO will have a copy of this deviation and the Range 51 Two-Story Shoot House SOP in their possession at all times while on the range.

(e) Unit OIC and RSO receive an onsite briefing by the range land manager before live firing in the shoot house.

(2) All personnel participating in or observing live fire training in the shoot house will wear level IV body armor, ballistic helmet, ballistic eye protection, gloves, and hearing protection. If flex cuffs are utilized in training, then flex cuff cutters will be readily available.

(3) Range Operations personnel will inspect Omni-directional shoot house quarterly, specifically to ensure and certify the integrity of the walls bullet traps and protective barriers. The barriers must be capable of preventing munitions from penetration. This Omni-directional deviation is void if the inspection is more than 90 days old.

(4) In the event of an accident or incident arising from the use of the Range 51 Two-Story Shoot House under deviation conditions, the deviation becomes invalid until the issuing authority reinstates the deviation.

(5) If any round impacts above the 8-foot mark, training will immediately cease and the Fire Desk will be notified. The range will close until Range Safety, the using unit, command safety conduct a complete investigation and the issuing authority reinstates the deviation.

(6) Units failing to meet the above requirements are in violation of this deviation and are therefore firing without authority.

Appendix D
Wet Bulb Temperature (WBGT) Categories

Work/Rest/Water Consumption							
Heat Cat	WBGT ¹	Easy Work		Moderate Work		Hard Work	
		Work/ Rest (MIN)	Water Intake (QT/Hr)	Work/ Rest (MIN)	Water Intake (QT/Hr)	Work/ Rest (MIN)	Water Intake (QT/Hr)
1	78° to 81.9° F	NL	1/2	NL	3/4	40/20	3/4
2 (Green)	82° to 84.9° F	NL	1/2	50/10	3/4	30/30	1
3 (Yellow)	85° to 87.9° F	NL	3/4	40/20	3/4	30/30	1
4 (Red)	88° to 89.9° F	NL	3/4	30/30	3/4	20/40	1
5 (Black)	>90° F	50/10	1	20/40	1	10/50	1
CAUTION							
Hourly fluid intake should not exceed 1 1/2 quarts. Daily fluid intake should not exceed 12 quarts							
IF wearing body armor, add 5° F to the WBGT; for the MOPP overgarment add 10° F.							
NOTES:							
1. Rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary ± quart per hour.							
2. NL = No limit to work time per hour.							
3. Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.							

EXAMPLES		
Easy Work	Moderate Work	Hard Work
1. Weapon Maintenance	1. Walking in loose sand, no load.	1. Walking in loose sand, any load
2. Walking on hard surface , 2.5 mph, ≤30lb load.	2. Walking on hard surface , 3.5 mph, ≤40lb load.	2. Walking on hard surface , 3.5 mph, ≥40lb load.
3. Manual of arms	3. Calisthenics	3. Individual movement techniques (low/ high crawl)
4. Drill and ceremony	4. Marksmanship training	4. Defense position construction
	5. Patrolling	5. Field assaults
		6. Rifle bayonet training
		7. Foot march >4mph

Table D-1. Recommended Modifications Of Physical Activity By Heat Category

Prevention of Cold Weather Injuries Due to Windchill			
When the windchill is -	And your Training is	You Should Be -	And Extended Breaks are-
CAT I +32° to +1°	Stationary	Fully Dressed	At the Commander's discretion
	Physically Active	Partially Dressed	Not Recommended
CAT II 0° to -5°	Stationary	Fully Dressed	Recommended
	Physically Active	Partially Dressed	Not Recommended
CAT III -6° to -10°	Stationary	Fully Dressed	Recommended
	Physically Active	Fully Dressed	Not Recommended
CAT IV Below -10°	Discontinue Outside Training		

Basic Cold Weather Injury Prevention
<ol style="list-style-type: none"> 1. Wear sufficient clothing and equipment to keep our body warm. Dress in layers 2. Avoid prolonged exposure of unprotected skin to extreme cold and/or windy conditions. 3. Keep clothing and equipment as dry as possible. Change socks at least daily or more if they are damp. 4. Keep clothing loose so that circulation is not decreased 5. Remove clothing layers, as appropriate, to limit sweating during activity. 6. eat hot meals, and drink hot liquids. Maintain food and fluid intake. 7. Be aware that the risk of cold injury increases in wet weather or when wearing wet clothing, particularly if the wind-chill is 40°F or below.

DEFINITIONS	
Wind-chill	The Cooling power of wind on exposed flesh expressed as an equivalent temperature under calm conditions
Fully Dressed	Wearing long underwear, field pants, overshoes, gloves or trigger finger mittens (when available), and pile cap.
Partially Dressed	Wearing gloves and a pile cap - no long underwear, field pants or overshoes
Extended Breaks	A maximum of 20 minutes continuous training with interspersed 10-minute breaks to visit warming facilities and drink hot liquids.
Stationary Activity	Maintaining a fixed position, such as a bleacher instruction, basic rifle marksmanship, and ceremonies

Table D-2. Cold Injury Prevention

Appendix E
Weather Warning Categories

E-1. Reference

Air Force Manual 15-125, CAM Regulation 115-1, Local Policy.

E-2. Weather watches

Weather watches are issued to increase awareness of the possibility of extreme and/or severe weather when the potential exists for development and are valid for the entire Fort Campbell Reservation. Weather warnings are issued when a specific weather condition, of such intensity as to pose a hazard to property or life, is occurring or is expected to occur, and are valid for the entire Fort Campbell Reservation and off-post areas within a 5 nautical mile radius of Campbell Army Air Field. Watches and warnings will be issued according to procedures given in CAM REG 115-1.

E-3. Procedures

Warning categories and desired lead times are listed in table E-1.

<u>Warning Categories</u>	<u>Desired Lead Times</u>
Tornado - Tornado is imminent. Direction, distance movement (if known)	30 min
Hail ¼" or greater	2 hours
Hail ½" but less than ¾"	90 minutes
Wind 35 knots or greater direction and speed of gusts	90 minutes
Heavy snow greater than 2 inches in 2 hours	90 minutes prior to snow beginning
Freezing precipitation	90 minutes

Table E-1. Warning Categories And Desired Lead Times

E-4. Watch categories

Watch categories and desired lead times are listed in table E-2.

<u>Watch Categories</u>	<u>Desired Lead Times</u>
Tornado Watch - The potential exists for tornado development	N/A
Severe Thunderstorm Watch - The potential exists for severe thunderstorm development	N/A
Freezing Precipitation Watch - The potential exists for freezing precipitation	N/A

Table E-2. Watch Categories And Desired Lead Times

Appendix F

Central Vehicle Wash Facility Utilization (CVWF)

F-1. Purpose

This appendix prescribes procedures and responsibilities for the use of the CVWF, Ranges 8 and 18.

F-2. Applicability

This appendix applies to all units, activities, and agencies utilizing the CVWF.

F-3. General

a. The CVWFs are high volume, high pressure vehicle wash facilities. Range 8 is located near the intersection of Mabry Road and Stillwell Road. Range 18 is located near the intersection of Angels Road and Market Garden Road. These facilities are for military vehicle washing only. Washing of POVs is prohibited. Maintenance cleaning is also prohibited.

b. Range 8 can only accommodate wheeled vehicles. Range 18 can accommodate both wheeled and tracked vehicles.

c. Units should come directly from the TAs to the facilities so vehicles can be washed prior to returning to garrison locations.

d. The tracked vehicle portion of the CVWF consists of four stations:

(1) The first station is a vehicle preparation area where vehicles can download equipment and dispose of trash prior to washing.

(2) The vehicles can then go to the second station and use the bird baths. Driving through these bird baths loosens and knocks off excessive mud and dirt.

(3) The third station has high pressure fire hoses and spray wands to complete the majority of the exterior washing.

(4) The fourth station consists of low pressure hoses to be used for interior cleaning. Prior to departing the CVWF, vehicles will upload any downloaded items.

e. The wheeled vehicle portion of the CVWF consists of three stations:

(1) At the first station, vehicles can download equipment and eliminate trash prior to washing.

(2) The vehicles can then proceed to one of the high pressure manual wash islands to complete the majority of the washing.

(3) Vehicles will upload any downloaded items before leaving the facility.

f. All MILES equipment will be removed from vehicles prior to the unit's arrival at the CVWF.

g. A battalion-size unit (approximately 20-30 vehicles) will normally take 75-120 minutes to wash all vehicles at the CVWF. Similarly, a brigade-size unit (approximately 100-125 vehicles) could be expected to take 4-5 hours.

F-4. Procedures

a. Both Range 8 (south wash rack) or Range 18 (north wash rack) by submitting an Operator request form at the Small Arms issue room not later than 16 days in advance in accordance with Chapter 2. Check the Eagle bulletin to confirm which is open for the week for unscheduled use.

b. Both Ranges 8 and 18 will be closed on Federal holidays.

c. Vehicles will be washed on a first-come-first-served basis.

d. Units washing 2-9 vehicles are required to have an NCOIC (corporal or above) to control the vehicles. Units washing 10 or more vehicles must have an NCOIC (SSG or above) and a 6-man cleanup detail. Drivers of single vehicles and all using unit NCOICs will report to the wash facility operator to receive a safety and operating procedure briefing.

e. Only water and brushes are authorized for use on the wash rack. Soap, detergent, glass cleaner, degreasers, etc., will not be used. Violators will be required to leave the wash rack.

f. Any variations must be coordinated with Range Operations.

F-5. Responsibilities

a. Using units will:

(1) Have unit OIC report to the CVWF personnel prior to any washing to receive operational/safety briefing.

(2) Clean the facility prior to leaving the CVWF. The unit OIC will be present throughout wash and clean-up activities.

(3) Provide a driver and ground guide for each vehicle and establish their own traffic control. The following ground guiding procedures will be used in the CVWF areas:

(a) Before a tracked vehicle is started, a member of the crew will walk completely around the vehicle to ensure no one is in danger from the vehicle's movement.

(b) Tracked vehicles will require ground guides front and rear. Guides must be able to see each other and must be visible to the driver.

(c) Wheeled vehicles will normally require one ground guide; however, two guides will be used when backing a wheeled vehicle with restricted vision.

(4) Conduct a thorough police call and ensure that no unit equipment, pyrotechnics, brass, ammunition, or explosives are deposited in trash bins. All trash will be deposited in the dumpsters provided.

(5) Have a retrieval vehicle on site to recover any stalled vehicles. This will avoid lengthy delays due to stalled vehicles in the bird baths.

b. Range Branch will --

(1) Conduct all scheduling and supervise CVWF personnel.

(2) Contact CSM of units not adhering to policies.

(3) Notify installation units and DPW of CVWF closures.

(4) Report malfunctions to DPW.

c. CVWF personnel will --

(1) Conduct operations and safety briefings.

(2) Report all malfunctions and any safety violations or failure to properly clean the facility to Range Branch.

(3) Ensure clean up is completed prior to releasing the unit OIC.

(4) Ensure all hoses and equipment are secured upon completion of unit operations.

(5) Coordinate small unit and single vehicle use of the facility.

d. DPW will --

(1) Provide maintenance and repair for the facility.

(2) Notify Range Operations 24 hours in advance of closures.

F-6. Safety

a. No horseplay with any of the hoses; also no running while in the facility.

b. No vehicle will proceed on the complex without a ground guide; facility speed limit is 5 mph.

c. Any time a vehicle is in motion, operators will ensure that headlights are turned on.

d. If a vehicle breaks down, turn on the four-way flasher and sound the horn.

e. Do not touch power boxes located on the cement islands.

f. Since all hoses are subject to damage and may be high pressure type-

(1) Do not run over any hoses with your vehicle.

(2) Do not kink hose lines; straighten out any kinks or knots.

(3) Do not leave any hose line unattended. (When washing is completed, shut the nozzle down and close the valve located on the cement islands.)

(4) Always open nozzles and valves slowly.

g. If a hose line breaks, get clear of the line and shut down the water flow at the valve located on the cement islands (never jump on any hose line).

h. NEVER DRINK THE WATER AT THE FACILITY. Water is recycled non-potable!

F-7. Cold Weather operations

a. Due to cold weather, recent damage to the CVWF has necessitated that operating procedures be modified to prevent further damage.

b. When the outside temperature is forecasted to drop below 32 degrees Fahrenheit, the wash facilities will be closed and winterized. These actions will be initiated as the temperature drops below 35 degrees Fahrenheit. When the temperature rises above 35 degrees for 6 hours, the wash facilities will be reopened.

c. Cold weather opening and closing decisions for the wash facilities will be made by the Small Arms Supervisor or the Range Operations Officer.

Appendix G
Market Garden Street Lights

Street lights along Market Garden Road have been installed and are controlled by three switches located at Range Branch. The firing desk operator has access to these switches 24 hours a day seven days a week. Battalion S-3's can request that the center and South sections of lights be turned on or off as necessary to enhance training or safety. Default condition of the lights will be on. Contact Range Branch at 798-3001/4122, provide name, rank, and reason for lighting condition change, and date requested.

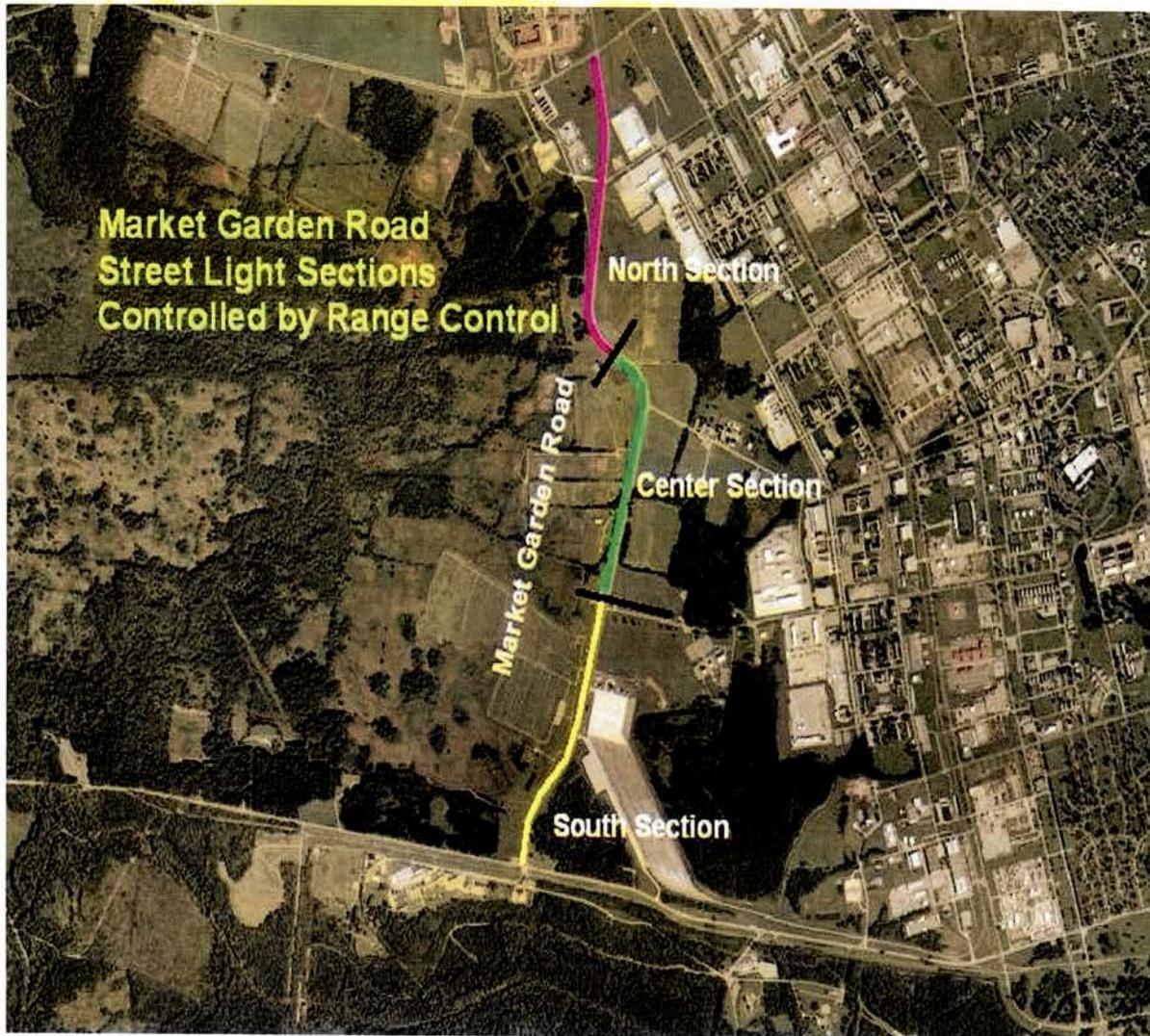


Figure I-1. Market Garden Street Lights

Appendix H

Fort Campbell Fire Support Coordination Measures and Air Coordination Measures

H-1. Purpose

This appendix defines standard Fire Support Coordination Measures (FSCM) and Air Coordination Measures (ACM) for Fort Campbell.

H-2. General

Units in training must employ these measures to ensure risk mitigation between units training in adjacent/related training areas on Fort Campbell.

H-3. No Fire Areas

- a. OP 13 From DF37106085 to DF37306086 to DF38145961 to DF37095960 to DF37106085
- b. Range 46 From DF36455718 to DF36955760 to DF38855550 to DF38325510 to DF36455718
- c. Range 29 From DF31645665 to DF32205691 to DF32995570 to DF32255530 to DF31645665
- d. Range 31 From DF37855880 to DF38855860 to 38905845 to DF37855831 to DF37855880
- e. Range 44 From DF40505368 to DF41455366 to DF41445225 to DF40305222 to DF40305340 to DF40505340 to DF40505368
- f. Range 28 From DF35295479 to DF36195510 to DF37705075 to DF36845034 to DF35295479
- g. Demo 39 From DF39855220 to DF41415220 to DF41255091 to DF39895080 to DF39855226
- h. OP 4 DF40765415

H-4. Restricted Operating Zones

Restricted Operation Zone (ROZ) is an aircraft control measure which identifies hazards to flight and restricts operations within the hazard area. The firing battery must compute a QE that will place the projectile at 700 ft AGL prior to leaving the ROZ. This is IAW CAM REG 95-1 Fort Campbell Flight Regulation [Appendix E](#).

a. Ensure Restricted Operating Zone (ROZ) is established and approved at all firing locations. These facilitate the maneuver of aircraft on Fort Campbell. Active ROZs will not be penetrated without positive two-way communication and permission from the ROZ controlling/establishing unit.

(1) ROZ A supports low angle firing: ROZ A is a 1,000m circle based off of center battery. ROZ A will be a QE > 267 mils.

(2) ROZ B supports high angle firing. ROZ B is a 500m circle based off of center battery. ROZ B will be a QE > 800 mils.

(3) MLRS and HIMARS will establish ROZ A and have an approved range packet to account for Air Hazard Area and Target Hazard Area.

H-5. Air Coordination Measures

Units will plan operations in relation to the helicopter route structures as listed in CAM Reg 95-1. All flight corridors are depicted on the Fort Campbell Special 1:50,000 scale map. All unit operations and planning will include these corridors in all aspects of their training implementation. Any operation that would interfere with the flow of traffic in the flight corridors requires a NOTAM required 10 days prior to training.

Glossary
Section I
Abbreviations

A

ABCS	Army Battle Command System
ACH	Advanced Combat Helmet
ACM	Air Coordination Measures
AFATDS	Advanced Field Artillery Tactical Data System
AFCS	Automated Fire Control System
AGL	Above Ground Level
AHO	Above Highest Obstacle
ALS	Assault Landing Strip
AOF	Azimuth of Fire
AOL	Azimuth of Lay
AP	Armor Piercing
APDS-T	Armor-Piercing Discarding Sabot Tracer
APEL	Approved Protective Equipment List
APFSDS-T	Armor-Piercing Fin-Stabilized Discarding Sabot Tracer
API	Armor Piercing Incendiary
AR	Army Regulation
ARTEP	Army Training and Evaluation Program
ASOP	Army Strategic Objectives Plan
ASP	Ammunition Supply Point
ATC	Air Traffic Control
ATIS	Air Traffic Information System
ATRC	Air Training Resource Conference
AZ	Azimuth

B

BACH	Blanchfield Army Community Hospital
BCT	Brigade Combat Team

C

CAAF	Campbell Army Airfield
CACTF	Combined Arms Collective Training Facility
CALFEX	Combined Arms Live Fire Exercise
CAM	Campbell
CAS	Close Air Support
CCMCK	Close Combat Mission Capability Kit
CCT	Combat Control Team
CDS	Container Delivery System
CG	Commanding General
CIED	Counter Improvised Explosive Device
CIP	Command Inspection Program
CLS	Combat Life Saver
COB	Civilians on the Battlefield
CoS	Chief of Staff
CP	Check Point (aviation)
CP	Command Post
CPQC	Combat Pistol Qualification Course
CQM	Close Quarter Marksmanship
CRL	Container Ramp Load
CRM	Composite Risk Management
CRRC	Combat Rubber Raiding Craft
CRS	Container Release System
CS	Combat Support

CSM
CSS
CVFR
CVWF

Command Sergeant Major
Combat Service Support
Copter Visual Flight Rules
Central Vehicle Wash Facility

D

DA
DA PAM
DCG (O)
DEC
DODIC
DPTMS
DPW
DRMO
DS
DZ
DZSO
DZST

Department of the Army
Department of the Army Pamphlet
Deputy Commanding General (Operations)
Declination
Department of Defense Identification Code
Director of Plans, Training, Mobility, Security
Director of Public Works
Defense Reutilization Marketing Office
Direct Support
Drop Zone
Drop Zone Safety Officer
Drop Zone Safety Team

E

EFR
EL
EMT
EOC
EOD
EOL
ETLBV

Eagle First Responder
Elevation
Emergency Medical Technician
Emergency Operations Center
Explosive Ordnance Disposal
End of Orienting Line
Enhanced Tactical Load-Bearing Vest

F

FAARP
FAR
FDC
FDO
FLA
FM
FO
FORSCOM
FP
FRAC
FRIES
FRTC
FSCM

Forward Arming and Refueling Point
Federal Acquisition Regulation
Fire Direction Center
Fire Direction Officer
Front Line Ambulance
Field Manual
Forward Observer
Forces Command
Firing Point
Final Resource Allocation Conference
Fast Rope Insertion and Extraction System
Full Range Training Cartridge
Fire Support Coordination Measures

G

GB
GFT
GIS
GLPS
GRMO
GS
GST

Green Bag (artillery)
Graphical Firing Tables
Geographic Information Systems
Gun Laying and Positioning System
Garrison Resource Management Office
General Support
Graphical Site Tables

H

HAHO
HALO
HE Heavy Equipment (Airborne)
HE

High Altitude High Opening
High Altitude Low Opening
High Explosive

HEDP	High Explosive Dual Purpose
HIMARS	High Mobility Artillery Rocket System
HRBC	Human Resources Business Center
HSLPADS	High Speed Low Level Aerial Delivery System
HVCDS	High Velocity Container Delivery System
I	
IBA	Individual Body Armor
ICM	Improved Conventional Munition
IFV	Infantry Fighting Vehicle
IRAC	Initial resource Allocation Conference
ISO	Installation Safety Office
ITAM	Integrated Training Area Manager
IAW	In Accordance With
J	
JTAC	Joint Terminal Attack Controller
K	
KIAS	Knots Indicated Air Speed
L	
LAO	Logistics Assistance Office
LAW	Light Antitank Weapon
LCE	Load Carrying Equipment
LCU	Lightweight Computer Unit
LLM	Loader Launcher Module
LPC	Launch Pod Container
LRAM	Land Rehabilitation and Maintenance
LRSO	Laser Range Safety Officer
LZ	Landing Zone
M	
MAAWS	Multirole Antiarmor Antipersonnel Weapons System
MAPS	Modular Azimuth Position System
MAT	Moving Armor Target
MCA	Major Construction Army
MEDEVAC	Medical Evacuation
MET	Meteorological
METL	Mission Essential Task List
MFF	Military Free Fall
MILES	Multiple Integrated Laser Engagement System
MIT	Moving Infantry Target
MLRS	Multi Launch Rocket System
MMT	Materiel Management Team
MMT	Marine Air Traffic Control Mobile Team (USMC)
MOA	Military Operational Area
MOI	Memorandum Of Instruction
MPMG	Multipurpose Machinegun
MQTR	Multipurpose Qualification Training Ranges
MRB	Mission Requirement Board
MRF	Modified Record Fire
MSL	Mean Sea Level
MTF	Medical Treatment Facility
MUC	Major Unit Command
MWR	Morale, Welfare, and Recreation

N

NCOPD Noncommissioned Officer Professional Development
NETCOM Network Command
NLT Not Later Than
NOTAM Notice To Airmen
NSN National stock number
NVD Night Vision Device

O

OHR Operational Hazard Report
OIC Officer in Charge
OMA Operations Maintenance Army
OP Observation Point
OPA Other Procurement Army
OPD Officer Professional Development
ORD Outdoor Recreation Division
ORSTA Orienting Station

P

PADS Position and Azimuth Determining System
PAO Public Affairs Office
PDS Position Determining System
PIC Pilot In Command
PLGR Precision Lightweight GPS Receiver
POC Platoon Operations Center (artillery)
POL Petroleum, Oil, and Lubricant
POV Privately Owned Vehicles
PPE Personal Protective Equipment
PZ Pickup Zone

Q

QASAS Quality Assurance Specialist Ammunition Surveillance
QE Quadrant Elevation
QTR Quarter

R

RAAWS Range Antiarmor Weapon System
RAC Resource Allocation Conference
RCMAT Radio Controlled Miniature Aerial Targets
RCMP Range Complex Master Plan
RCNI Request Control Number Identifier
RDP Range Development Plan
RFMSS Range Facility Management Support System
RMP Range Modernization Process
ROZ Restricted Operation Zone
RP Reference Point
RRC Rigid Raiding Craft
RRPR Reduced Range Practice Rocket
RSC Range Steering Committee
RSO Range Safety Officer
RTLA Range and Training Land Analysis
RTLTP Range and Training Land Program
RTO Radio Telephone Operator

S

SAAFR Standard-use Army Aircraft Flight Route
SAPI Small Arms Protective Insert

SAT	Stationary Armor Target
SATB	Standard Airdrop Training Bundle
SCP	Survey Control Point
SDO	Staff Duty Officer
SDZ	Surface Danger Zone
SDZD	Surface Danger Zone Diagram
SHOC	Special Helicopter Operations Company
SIT	Stationary Infantry Target
SJA	Staff judge Advocate
SL	Squad Leader
SMAW-D	Shoulder-Launched Multipurpose Assault Weapon-Disposable
SME	Subject Matter Experts
SO	Safety Officer
SOP	Standard Operation Procedure
SOUM	Safety Of Use Message
SPAL	Simulator Projectile Airburst Liquid
SPIES	Special Patrol Insertion/Extraction System
SRM	Sustain Repair Maintenance
SRP	Sustainable Range Program
SRTA	Short Range Training Ammunition
SSN	Social Security Number
STABO	Stabilized Tactical Airborne Body Operations

T	
TA	Training Area
TALS	Tactical Automated Landing System
TC	Tank Commander
TCE	Tank Commander Evaluator
TDY	Temporary Duty
TEWT	Tactical Exercise Without Troops
TFT	Tabular Firing Tables
TL	Team Leader
TOT	Time On Target
TOW	Tube-launched, Optically Tracked, Wire-Guided
TP	Training Practice
TPDS-T	Target Practice Discarding Sabot Tracer
TPT	Target Practice Training
TRI	Training Requirements Integration]

U	
UAS	Unmanned Aerial Systems
UAV	Unmanned Aerial Vehicle
UO	Urban Operations
USASOC	United States Army Special Operations Command
UTM	Ultimate Training Munition
UMMCA	Unspecified Minor Construction Army
USAF	United States Air Force
UXO	Unexploded Ordnance

V	
VE	Velocity Error
VT	Variable Time

W	
WB	White Bag (artillery)

Section II

Terms

Check Fire

A temporary interruption in a firing event. During a check fire, all firing must cease. A check fire may be issued by the OIC, RSO, or other personnel in the event of a serious safety hazard or incident on a range, or by Range Branch when appropriate. A check fire imposed by Range Branch will only be lifted by Range Branch. A check fire imposed by a unit on a range will be reported immediately to Range Branch.

Check Fire Freeze

A command used to indicate a serious range incident has occurred and it is imperative that all weapons immediately cease firing, and all firing data be kept on the guns (elevation, deflection, charge, shell, fuse, etc). Small arms weapons will be placed on safe. Firers remain in place until the check fire freeze has been lifted. A check fire freeze will only be lifted by Range Branch. Specific actions to be taken by firing units are listed in the Chapter addressing the weapons being used.

Cease Fire

A cease fire is a temporary interruption in a training event to facilitate the changing of firing orders, firing tables, lunch breaks, etc. it is also used to indicate the end of a training day or training event. Cease fire is normally imposed by the training unit. However, a cease fire may be imposed by the Installation Sustainable Range Program Manager if warranted.

Close Air Support (CAS)

Air action by fixed and rotary wing aircraft against hostile targets that are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

Cook-off

The delayed functioning of a chambered round of ammunition initiated by the heat of the weapon which causes the explosive train or primer to ignite.

Collection Point

A centralized location for the collection and inspection of salvageable material prior to transportation to property disposal.

Direct Fire

Fire delivered on a target when the weapon is laid by sighting directly on the target using the weapon's sighting equipment.

Downwind Hazard Area

That area beyond the impact point which may be affected by riot control chemical agent's, simulated chemical agent, or deliberate smoke operations due to the extent of downwind drift (which is affected by the direction and speed of the wind).

Dud

A discharged projectile containing an explosive charge which failed to arm as intended or which failed to function after being armed.

Erratic Fire

After normal firing has occurred, the round deviated from its planned course of trajectory.

Firing Line

The line from which weapons are fired. No one is permitted forward of this line during firing except as specifically indicated in this regulation.

Firing Point

A point from which artillery or mortar weapons will deliver live fire into an established impact area.

Firing Position

The point or location at which a weapon, other than demolition, is placed for firing. In the case of demolition, the firing position is that point or location where the firing crew will be located during demolition operations.

Hangfire

A hangfire is a delay in the functioning of the propelling charge of the explosive train. A hangfire cannot immediately be distinguished from a misfire. For this reason, always wait the prescribed time (as established by the appropriate FM) before attempting to clear the weapon.

Indirect Fire

Indirect fires are those fires that cannot be observed by the firing unit. This necessitates the use of outside agencies, such as forward observers, aerial observers, or radar, to observe, direct, and control the effects of the fire.

Installation Sustainable Range Program Manager (ISRPM)

A commissioned officer or Department of the Army civilian charged with management and enforcement of installation range safety, coordination and scheduling of ranges, maintenance, modification, and construction of ranges and training facilities in accordance with procedures prescribed in this regulation.

Joint Air Attack Team (JAAT)

Joint close air support elements utilizing the combined assets of fixed wing and rotary wing aircraft under the control of a single battle commander.

Joint Airborne/Air Transportability Training (JA/ATT)

Joint exercise utilizing Air Force aircraft, personnel, and equipment to fulfill training requirements in airborne/air transport operations for more than one service.

Joint Terminal Attack Controller (JTAC)

A Qualified (certified) service member who, from a forward position, directs the action of combat aircraft engaged in CAS and other air operations. A qualified and current JTAC will be recognized across Department of Defense as capable and authorized to perform terminal attack control.

Joint Usage

A coordinated, written agreement between two or more units to share a training facility. Coordination is documented on a FC Form 253 (Range Requirements) and submitted to the Scheduling Section, Range Branch, for final approval.

Malfunctions of Ammunition

Includes premature functioning, duds, erratic fire, hangfires, and misfires. Class A malfunctions are those that can cause fatalities, serious injury, and/or serious damage to a weapon launcher under normal training or combat conditions.

Misfire

A misfire is defined as an item of ammunition whose primer has failed to function or has failed to ignite the succeeding explosive train of the propelling charge.

Notice to Airmen (NOTAM)

A published notice containing information on scheduled air operations, use of CS, demolitions, live fire exercises, or other activities that affect airspace, thereby changing or creating hazardous flight conditions.

Officer-in-Charge (OIC)

The OIC is normally the commander of the soldiers conducting training, firing, or using installation range/training area facilities. The officer, warrant officer, or NCO (E6 or above) is responsible for everything the soldiers do or fail to do while under his control. He/she must attend a Range Branch Range Orientation Briefing and be properly trained and certified by his/her battalion commander. His/her name must be on the battalion's certification memorandum on file in the Range Branch Safety office IAW Chapter 3, para 3-2 of this regulation.

Overhead Fire

Fire that is delivered over the heads of unprotected personnel occupying Area D of a SDZD to include:

- a. Military personnel conducting training.
- b. Army helicopters flying below the trajectory of the projectile.
- c. Nonmilitary personnel traveling along public roads.
- d. Hunters, farmers, and others.

Quality Assurance Specialist Ammunition Surveillance (QASAS)

The QASAS is the assigned Explosive Safety Officer (ESO) at Fort Campbell. Provides technical assistance and support on ammunition quality and explosive safety matters to locally assigned personnel and to soldiers training on ranges. Investigates and reports ammunition malfunctions. Assists the Installation Sustainable Range Program Manager as required.

Range Personnel

Those persons specifically designated to assist the Range OIC in the discharge of his/her duties.

Range Safety Officer (RSO)

A qualified commissioned officer, warrant officer, or NCO (E5 or above) who is the safety representative of the OIC of the training unit. He will not be assigned other duties while acting in this capacity. The RSO must attend a Range Branch Range Orientation Briefing and be certified by his/her battalion commander IAW Chapter 3, para 3-2 of this regulation. His/her name must be on the battalion's certification memorandum on file in the Range Branch Safety office IAW Chapter 3, para 3-2 of this regulation.

Runaway Gun

A runaway gun is a gun that continues to fire after the trigger is released.

Ruptured Cartridge

A cartridge whose shell casing bursts or ruptures inside the chamber of a weapon.

Safe Radius

Safe radius is that distance from a weapon considered safe for personnel. It is also the minimum distance that soldiers will be kept away from a misfire, dud, or any potential explosive hazard. The safe radius is the distance to move away from a potential cook-off that cannot be cleared from the weapon.

Searchers

Individuals who have the responsibility of searching for, locating, and marking all items of ordnance within their assigned area. They will notify appropriate on-site EOD personnel for identification, classification, or further disposition.

Searching Party

A composite force consisting of an OIC, NCOIC, a designated number of individual searchers, and an accompanying EOD element. Minimum uniform will be ballistic helmet, body armor, safety goggles, and IBA with ballistic plates installed.

Scrap

Any salvageable or recoverable metals or residue obtained from range clearance operations which can be reclaimed and transferred safely to the Defense Reutilization and Marketing Office (DRMO).

Stoppage

A stoppage is any interruption in a weapon's cycle or functioning caused by faulty action of the gun or its ammunition.

Surface Danger Zone

That segment of the range area which is endangered by a particular type of weapon or ammunition being fired.

Training Facilities

The term used to refer to FPs, OPs, DZs, ALS, Ranges, TAs, and other specified facilities within the reservation which are scheduled, maintained, and controlled by Range Branch.