Department of the Army
Headquarters, United States Army
Maneuver Support Center of Excellence
Fort Leonard Wood, Missouri 65473-8929

***FLW Regulation 385-10**

31 May 13

Safety
SAFETY PROGRAM

History. This publication is an administrative revision to this regulation. The portions affected are listed in the summary of change.

Summary. This regulation establishes policy and procedures for the United States Army Maneuver Support Center of Excellence (MSCoE) Safety Program. It fixes responsibility and provides a review system to ensure standards are enforced.

Applicability. This regulation applies to military personnel, their Family members, Department of the Army (DA) civilian employees, DOD civilian employees, contractor personnel, and all other persons located on FLW.

Proponent and Exception Authority. The proponent agency of this regulation is the Maneuver Support Center of Excellence Safety Office (MSO).

Supplementation. Supplementation of this regulation is prohibited unless specifically approved by Headquarters (HQ), MSCoE.

Suggested Improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, MSCoE (ATZT-ST), 261 East 19th Street, Bldg 1000, Suite 107, Fort Leonard Wood, MO 65473-8957.

Distribution. Electronic medium only and posted on the FLW Web Site.

FOR THE COMMANDER:

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This regulation supersedes FLW Regulation 385-2, 22 April 1993; FLW Regulation 385-3, 4 August 1989; FLW Regulation 385-4, 8 August 2008; FLW Regulation 385-5, 2 May 2007; FLW Regulation 385-6, 26 June 2002; FLW Regulation 385-7, 15 August 2002; and FLW Regulation 11-1, 21 October 2002.

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Chapter 1
INTRODUCTION

1-1. Purpose

This regulation prescribes the United States Army Maneuver Support Center of Excellence (MSCoE) Safety and Occupational Health (SOH) program policy, responsibilities, and procedures to safeguard and preserve resources against accidental loss. It establishes risk management (RM) as the Army's principal risk reduction methodology and assures regulatory and statutory compliance. It provides for public safety incident to Army operations and activities.

1-2. References and forms

Required and related references and prescribed and referenced forms are identified in appendix A.

1-3. Explanation of acronyms, abbreviations, and terms

The acronyms, abbreviations and special terms used in this regulation are explained in the glossary.

1-4. Scope

In accordance with AR 385-10, this regulation is applicable to all military and civilian units, activities, and organizations organic to Fort Leonard Wood (FLW); tenant units on FLW; U.S. Army Reserve and U.S. Army National Guard when on the installation; other Department of Defense (DoD) Services, units, activities, and organizations when on the installation. In accordance with Defense Federal Acquisition Regulation Supplement (DFARS) 222.102-1, the Department of Labor is responsible for the administration and enforcement of the Occupational Safety and Health Administration (OSHA). Contractors will manage their internal safety program in accordance with OSHA regulations (Title 29 Code of Federal Regulations [CFR]), their contract, and all other applicable National Consensus Standards. Contract safety oversight will be provided by Federal OSHA compliance personnel.

1-5. Application of safety standards

a. In accordance with Section 16, Part 1960, Title 29, Code of Federal Regulations (29 CFR 1960.16), all standards established by Department of Labor pursuant to sections 6 and 19 of Public Law 91–596 are adopted as Army safety standards and will be complied within applicable Army workplaces. Army workplaces are generally comparable to private sector workplaces.

b. EM 385-1-1 applies to all Army construction operations incorporating 29 CFR 1926. Commanders (CDRs) will apply OSHA and other non-DA regulatory or consensus safety and health standards to military unique equipment, systems, operations, or workplaces, in whole or in part, insofar as practicable. When military design, specifications, or requirements render compliance infeasible, or when no regulatory or consensus standard exists for such military application, CDRs will request development and publishing of special military standards, rules, or regulations prescribing occupational safety and health measures through the MSCoE Safety Office (MSO).

c. Certain operations are subject to mandatory safety standards or rules that derive from separate, specific statutory authority. The application of special functional standards does not exempt any workplace from other appropriate safety criteria. Example: The Ammunition Supply Point is subject to special explosives safety standards and is also subject to OSHA safety criteria such as 29 CFR 1910.

d. When standards in Army publications conflict with a legal standard such as OSHA, or provide a lower degree of protection, the legal standard will apply. When the Army standards are equal to or exceed such requirements in providing workplace safety, the Army requirement will apply.

e. Where parent command safety requirements conflict with MSO requirements, the more stringent standard will apply.

1-6. Deviations

Deviations from this regulation are not authorized. Requests for change must be submitted through the MSCoE Safety Office (MSO) to the FLW Commanding General, MSCoE. CDRs may not issue waivers or variances to National Consensus Standards, such as National Fire Protection Association (NFPA) or OSHA standards.

1-7. Goals

The goals of the MSCoE SOH program are to—

a. Minimize accidental loss of personnel, property, and equipment in order to enhance combat effectiveness for all units at FLW.

b. Provide a safe and healthy work environment for all military, civilians, and family members of FLW.

1-8. Safety-related programs

In the interest of brevity, the contents of this regulation are not all inclusive. Detailed guidance for specific programs may be found in the appropriate regulatory documents (such as the Army AR/DA Pam 385 series) and National Consensus Standards (such as NFPA and OSHA).

a. Blood Borne Pathogens: Proponent agency for blood-borne pathogens is the FLW Office of Occupational Health (OH) and Preventive Medicine.

b. Fire Safety: Specific guidance for fire safety and prevention can be found in FLW Reg 420-2; proponent agency is Directorate of Emergency Services (DES) Fire Department.

c. Hearing Conservation: Proponent agency for hearing conservation is the FLW Office of Preventive Medicine.

d. Range Safety: Specific guidance for range safety can be found in FLW Reg 210-14, Range Safety program; Proponent agency is Directorate of Plans, Training, Mobilization, and Security.

e. Respiratory Protection: Proponent agency for respiratory protection is the FLW Office of Preventive Medicine.

1-9. Army Readiness Assessment Program (ARAP)

ARAP was designed as a battalion (BN) CDR's tool addressing root causes of accidental loss by focusing on organizational safety climate and culture. ARAP is comprised of an online survey, filled out by employees and Soldiers anonymously, that captures unit posture on command and control, standards of performance, accountability, and RM.

a. CDRs of BN and BN-sized organizations will conduct an ARAP survey within 90 days of assumption of command and again at mid tour.

b. The FLW Garrison will conduct an ARAP survey as required.

1-10. Public safety

The Army goal is to show the public that a professional, well-organized organization is in place. Ensuring public safety is a critical step in achieving this goal. When the public has access to facilities under the control of the Army, precautions must be in place to assure a reasonable level of safety. Precautions that must be in place include:

a. Signs guiding to and from public areas (including procedures for parking and paths to be used to access open areas).

b. Enforcement of protective equipment use (both personal and general).

c. Proper maintenance of areas (for example, graduation fields and commissary) in which the public is allowed.

d. Notices posted on how to seek emergency assistance.

1-11. Safety and Occupational Health Advisory Council (SOHAC)

a. The SOHAC complements the SOH program by promoting the early identification and rapid remediation of hazards, increasing operational capability and organizational efficiency by maintaining a safe and healthful workplace. The MSCoE CSM retains the right to hold a separate CSM Safety Action Council when warranted.

b. The Council is an integrative, collaborative and interactive forum of the MSO and associated agencies with safety-related roles in order to assist with the identification of potential safety hazards for remediation, allow for the dissemination of critical safety updates, and develop SOH recommendations and guidance for FLW.

c. Councils will meet at least semi-annually and minutes will be prepared and posted.

d. Council membership is as follows:

- Chair: Commanding General and CSM, MSCoE.
- Deputy to the Commanding General (DtCG), MSCoE.
- Commandants (CMDTs) of the Chemical, Biological, Radiological, and Nuclear (CBRN); Engineer (EN); and Military Police (MP) Schools.
- Chief of Staff (CS), MSCoE.
- Major Subordinate CDRs and CSMs.
- Brigade (BDE) CDRs and CSMs.
- Garrison CDR and CSM.
- Special Staff.
- Primary Staff.
- Garrison directors (DIRs) as applicable.

1-12. Unit safety action councils (USACs)

The purpose of the USAC is to discuss safety issues which pose a threat to personnel and government property. This committee will provide information to the SOHAC. The unit CDR is the chair of the USAC. The unit/directorate additional duty safety officer (ADSO)/collateral duty safety officer (CDSO)

are the executive secretary to the USAC and will prepare the agenda and minutes. This committee will meet at least quarterly.

1-13. Installation safety rules

Units will brief new personnel (military and civilian) on the installation safety rules contained in appendix B within 5 working days of arrival.

Chapter 2
RESPONSIBILITIES

2-1. Commanding General (CG)

The CG is the U.S. Army Training and Doctrine Command (TRADOC) Senior Mission CDR of MSCoE and is overall responsible for the Installation SOH program.

2-2. Subordinate MSCoE CDRs/DIRs

Subordinate MSCoE CDRs/DIRs will—

a. Establish and maintain SOH programs as outlined in DA, TRADOC, U.S. Army Installation Command (IMCOM), U.S. Army Forces Command (FORSCOM) regulations; this regulation; and other directives, standards, policies, and regulations.

b. Implement and enforce SOH policies in directives from this headquarters, higher headquarters, and other appropriate authorities.

c. Ensure that personnel are trained and qualified to perform their assigned jobs and that they are properly supervised.

d. Require personnel of other agencies to comply with the safety and health regulations of this command while on FLW.

e. Investigate and report accidents within the command as required by DA Pam 385-40, AR 385-10, and chapters 4 and 5 of this regulation.

f. Ensure that the chain of command conducts after action reviews (AARs) of serious accidents for all activities on and off of the installation. These AARs should contain a comprehensive analysis of the problems and an implementation plan for corrections/countermeasures.

g. Appoint all ADSOs to include detachment-level units. Civilian directorates will also appoint a CDSO for each division to assist the DIR. Sample ADSO/CDSO appointment order template at appendix C.

2-3. MSCoE Chief of Staff (CS)

The MSCoE CS will approve and fund SOH professional development training as required.

2-4. Supervisors

Supervisors (military and civilian) will—

a. Attend safety training (Supervisors/Managers Safety Course), complete online training at <*https://safety.army.mil/*>, and be familiar with safety and health standards in their areas.

b. Ensure that personnel are properly trained and provide them with any necessary personal protective equipment (PPE).

c. Report all injuries and accidents in accordance with (IAW) chapter 5 of this regulation.

2-5. Military personnel, civilian employees and contractors

Military personnel, civilian employees and contractors will contribute to the safety mission by reporting all injuries, hazards, and accidents to their supervisor and eliminating/reducing hazards in their unit/organization.

2-6. MSCoE Safety Director (MSO DIR)

The MSO DIR will—

a. Report to CG through the CS, MSCoE.

b. Serve as principal advisor to the CG and MSCoE staff on all SOH issues pertaining to the execution of the command's mission.

c. Develop policy, plans, procedures, objectives, and projects as specified in AR 385-10.

d. Develop, organize, and manage the SOH program for FLW.

e. Provide SOH services and advice to all commands, directorates, staff sections, units, and activities assigned to FLW.

f. Provide technical and professional assistance to reduce or eliminate unsafe conditions and practices.

g. Assist in reporting and investigating accidents as required by AR 385-10, OSHA, and appropriate implementing regulations.

h. Determine the need for accident prevention criteria and procure safety promotional materials.

i. Assist CDRs in developing safety education and training programs suitable for on-/off-duty activities.

j. Provide liaison with other local, state, and federal safety agencies.

k. Analyze accident data of this command, and prepare trend reports, countermeasure programs, develop strategic plans, and other studies required by higher headquarters.

l. Measure the effectiveness of the SOH program using administrative and operational safety surveys and inspections. With the results of those surveys and inspections, verify that safety standards are in accordance with OSHA, Army regulations, technical and field manuals, local regulations, and other directives.

m. Conduct investigations of special interest accidents such as explosives, ammunition, and equipment.

n. Provide training for unit safety officers/noncommissioned officers (NCOs), supervisors, and employees.

o. Establish and implement a MSCoE Safety Awards Program to recognize MSCoE personnel and activities for safe performance.

p. Establish and implement branch specific RM integration through the review and validation of training products used to train and educate MSCoE military personnel.

q. Assess the effectiveness and conduct training of ADSOs/CDSO's, and provide oversight, assistance and evaluate the program.

r. Direct, plan, program, and annually evaluate OH protection programs with assistance of Director of Health Services, General Leonard Wood Army Hospital (GLWACH), and OH Division. The Installation Medical Authority (IMA), GLWACH; OH Division; and installation safety director have overlapping responsibilities as outlined in the OH chapters of this regulation.

s. Appoint Installation Respiratory Protection Director (IRPD)

2-7. Directorate of Emergency Services (DES)

The DES will—

a. Provide the MSO with copies of MP blotter reports associated with accidents.

b. Provide additional accident information to supplement DA Form 285 (U.S. Army Accident Investigation Report) to MSO.

c. Ensure that the Post Fire Chief provides MSO with a copy of each DD Form 2324 (DOD Fire Incident Report) submitted IAW AR 385-10.

d. Appoint OH point of contact (POC) for training and coordination with MSCoE safety.

2-8. Director, Civilian Personnel Advisory Center (CPAC)

The DIR, CPAC will—

a. Provide MSO with a copy of all Workers Compensation Act Forms (CA Form 1 [Federal Employees' Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation] and CA Form 2 [Federal Employee's Notice of Occupational Disease and Claim for compensation]) within 5 days of notification by employee.

b. Coordinate with MSO on employee work site complaints for an evaluation of unsafe or unhealthy working conditions.

c. Ensure that performance standards for supervisors/workers include safety responsibilities.

d. Ensure that job descriptions reflect current duty position.

2-9. Directorate of Public Works (DPW)

DPW will—

a. Prioritize all risk assessment codes (RAC) 1 and 2 IAW AR 385-10, chapter 23, paragraph 23-6g.

b. Require all construction and modernization projects to incorporate explosives safety, fire protection, and other appropriate SOH standards.

c. Update MSO monthly on the status of all safety-related work orders.

d. Ensure that an MSO representative is invited to all preconstruction meetings.

2-10. U.S. Army Mission and Installation Contracting Command (MICC)

MICC will—

a. Ensure that OSHA and DA safety requirements are incorporated into contracts IAW AR 385-10.

b. Ensure that an MSO representative is invited to all preconstruction meetings.

2-11. Safety officers and NCOs

Safety officer and NCOs (military and civilian) will—

a. Attend safety training as required.

b. Enforce the Army Safety Program and all related safety and health standards.

c. Maintain the unit/organization's safety board.

d. Post the DD Form 2272 (DOD Occupational Safety and Health Protection Program), (see appendix D) in all common areas.

e Ensure that the Organizational Inspection Program (OIP) checklist is followed.

2-12. Director of Health Services

The DIR, Health Services, GLWACH, will—

a. Act as principle advisor to the MSCoE CG for OH and IH protection.

b. Provide medical guidance and surveillance of the MSCoE OH and IH protection program.

c. Include the MSO in OH meetings and conduct integrated annual reviews of required OH programs.

2-13. Installation medical authority (IMA)

The IMA and MSO have overlapping responsibilities as outlined in OH chapters of this regulation.

Chapter 3
SAFETY AWARDS PROGRAM

3-1. General

a. The Secretary of the Army established the Army Accident Prevention Awards Program to personally recognize organizations and individuals that have demonstrated exceptional operational excellence by sustained mission success with simultaneous exemplary safety performance. See AR

385-10, chapter 8, and TRADOC Reg 385-2, chapter 5, for more information on this program. Safety awards are recognized as an essential part of an effective safety program. The objective of this awards program is to promote excellence in mission readiness by accident and hazard reduction. An active safety awards program will recognize effective safety programs, integration of RM principles, and foster a sound safety culture. Organizations and individuals should be recognized for extraordinary commitment to a command-wide safety focus that demonstrates effective RM integration in operational readiness and mission success.

b. The MSO will establish, fund, and administer the safety awards program for all units and organizations on or supported by FLW, IAW appropriate support agreements.

c. Safety awards will be programmed and budgeted annually.

d. Qualification standards and types of awards are specified in this chapter. CDRs are encouraged to adopt similar criteria for their unit safety awards programs, if used.

3-2. Procedures

a. CDRs of units/DIRs of organizations falling under the responsibility of the MSO will—

(1) Develop a log for accurate recording of Army motor vehicle miles driven by individual vehicle operators whose primary duty is motor vehicle operator.

(2) Recommend eligible personnel and units/organizations under their command or control for safety awards. Both civilian and military personnel are eligible for awards.

(3) Obtain award certificates DA Form 1119-1 (Certificate of Achievement in Safety) through publication channels. The awards proponent will handle higher awards (TRADOC and installation).

(4) Prepare and present the DA Form 1119-1 by the appropriate command level.

(5) Submit awards requests to MSO, Building 1000, Room 107, Fort Leonard Wood, Missouri 65473 for special safety awards for individual, unit, or organization actions contributing to safety and accident prevention.

(6) Present awards at an appropriate ceremony.

b. MSO will—

(1) Provide safety incentive awards to be awarded with certificates.

(2) Process school-, branch-, and MSCoE-level certificates and return to the requesting unit for award ceremonies.

(3) Provide impact safety incentive awards during training, tactical, and normal installation operations for observed safety actions or results enhancing mission and Soldier safety to units outlined above.

3-3. Promotional items

a. The use of promotional items can substantially enhance accident prevention programs. Installations must maintain a safety awareness program pursuant to AR 385-10, paragraph 8-8. Small promotional items conveying safety messages may be part of the safety awareness program, and their use is encouraged to influence safe performance of duties. Appropriated funds may be used to

purchase such promotional items as a necessary expense to carry out the safety awareness program mission, unless otherwise prohibited by law.

b. Promotional items for safety must be distributed for valid reasons, to promote safety awareness, and not with such frequency that the intent is lost.

c. The MSO DIR must approve purchase of these items.

d. All promotional items will be clearly identified as safety items via printing, logos, or other means.

e. Use small, inexpensive items to recognize safe performance and significant contributions to safety. Examples are pencils, pens, gym bags, key chains, and cups. The MSO DIR must approve distribution schemes.

f. Promotional items will not be recorded on property books. For this reason, MSO DIR must secure these items and establish internal controls to maintain accountability.

g. Compliance with the above criteria will be inspected during the annual safety program evaluation.

3-4. Earned safety awards criteria

a. United States Army Safety Award, DA Form 1119-1 is presented to individuals for achievement in accident prevention or for any significant contribution to safety activities. This award can be presented as many times as a CDR, DIR, or supervisor likes for almost any reason relating to accident prevention. The MSO will not provide a token award for this. However, units may provide additional incentives or tokens as they see fit.

b. United States Army Certificate of Achievement in Safety. CDRs present DA Form 1119-1 to individuals for specific achievements in safety. Units and organizations will provide their own certificates for unit-level awards. MSO will provide certificates for installation-level awards. A BN CDR or civilian division chief should sign first award DA Form 1119-1 and the second award should be signed by a BDE CDR or civilian DIR. The MSCoE Chief of Staff or a CMDT for a specific branch will approve and sign the third award. The CG will approve and sign the fourth award. MSO will provide a token award to accompany this certificate for all four levels.

3-5. Safety day booster awards

a. MSO will publish specific requirements for these awards in the annual safety day operations order (OPORD).

b. These awards will be given to an officer, NCO, Soldier, civilian supervisor, civilian employee, and a person in a special category for support of the installation safety program during the previous year. CDRs and DIRs must nominate their personnel for these awards.

c. A second set of awards will be provided to personnel who made significant contributions to Safety Day itself. These personnel are nominated after Safety Day.

3-6. Safety day awards

MSO will publish specific guidance on these awards in the annual Safety Day OPORD.

3-7. Department of the Army and major command safety awards

All personnel, units, and organizations at FLW are eligible for these awards with the nomination routed through MSO. For additional information, refer to AR 385-10, chapter 8, and DA Pam 385-10, chapter 6. Preformatted nomination sheets are available online at <*https://safety.army.mil*>.

Chapter 4
ACCIDENT INVESTIGATIONS

4-1. Introduction

a. This chapter provides policies and procedures for initial notification, investigating, and submitting reports of Army accidents and incidents. Two types of boards may be convened, centralized accident investigation (CAI), conducted by the Director of Army Safety (DASAF) or installation accident investigation (IAI), and conducted by the Installation. Upon notification of a Class A or B accident, DASAF will determine whether a CAI or IAI will be conducted. If DASAF cannot support a CAI, then an IAI board will be appointed by the MSCoE CG IAW AR 385-10.

b. Additionally, it provides instructions concerning the notification and investigation of on duty Class A and Class B training accidents and other accidents of significance which occur at FLW or at a training location at which FLW has equipment, troops, or responsibility. All classifications as described in paragraph 4-2 will be investigated IAW AR 385-10, DA Pam 385-10, DA Pam 385-40, and this regulation.

4-2. Accident classifications

a. Class A accident. An Army accident in which the resulting total cost of property damage and personnel injuries or occupational illness is $2,000,000 or greater; or an injury or occupational illness that results in a fatality or permanent total disability.

b. Class B accident. An Army accident in which the resulting total cost of property damage and personnel injuries or occupational illness is $500,000 or more, but less than $2,000,000; or an injury or occupational illness that results in permanent partial disability or hospitalization of three or more personnel in a single occurrence.

c. Class C accident. An Army accident in which the resulting total cost of property damage is $50,000 or more, but less than $500,000; a nonfatal injury or occupational illness that causes 1 or more days away from work or training beyond the day or shift on which it occurred or disability at any time (that does not meet the definition of Class A or B and is a day(s) away from work).

d. Class D accident. An Army accident in which the resulting in total cost of property damage is $2,000 or more, but less than $50,000; a nonfatal injury or illness resulting in restricted work, transfer to another job, medical treatment greater than first aid, needle stick injuries, and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work-related tuberculosis case.

4-3. Policy

Army policy is to investigate and report all Army accidents to prevent like occurrences. All Army accidents will be investigated, reported (to include immediate notification as specified in this regulation), and analyzed IAW the requirements of DA Pam 385-40, U. S. Army Combat Readiness/Safety Center

(USACR/SC) use and preparation guides, other USACRSC developed tools for accident investigation and reporting, and this regulation.

a. On-duty Class A and Class B training accidents and selected other accidents (as directed by the TRADOC or MSCoE CDR) will be investigated by a board. All boards will employ general use accident investigation procedures IAW DA Pam 385-40 unless directed to do a limited use investigation by the DASAF.

b. Upon notification, CDR, USACR/SC, will determine which accidents will be investigated by CAI board from USACR/SC.

c. As soon as possible after notification, a member of MSO will proceed to the accident scene. He/she will start gathering information, ensure the provisions of this regulation are followed, and provide information and feedback to the MSO DIR and MSCoE CS.

d. The Public Affairs Office (PAO) will be the sole releasing agency for information pertaining to accidents under the purview of this plan.

e. The safety accident investigation will take precedence over all collateral investigations.

f. Promises of confidentiality cannot be given to witnesses.

g. Post accident toxicological testing.

(1) The first uninvolved CDR in the chain of command of a unit experiencing an on-duty Class A or Class B accident shall request toxicological testing (blood and urine samples) of those military personnel directly involved in the accident. Once he personally determines the accident to be within the parameters for Class A or Class B accidents established in paragraph 3-2. The CDR must, whenever possible, utilize probable cause based search authorizations to obtain these samples to allow for the widest possible use of test results in potential judicial, non-judicial, or administrative actions resulting from the accident. Civilian personnel will not be involuntarily tested solely under authority of this regulation. In the case of a civilian, whether affiliated with the Department of Defense (DOD) or not, testing will only be accomplished when independent authority exists (such as consent, implied consent, and authorization to search).

(2) Situations for not testing. No testing shall be required in the case of an accident, the cause and severity of which are wholly attributable to a natural cause (for example, flood, tornado, other natural disasters) as determined on the basis of objective and documented facts. No testing shall be required of an individual when the CDR can immediately determine, on the basis of specific information, that they had no role in the cause(s) or severity of the accident. Results of toxicological tests directed by the CDR will be available to all investigating agencies (safety accident investigation board and collateral investigation boards). If the CDR does not direct toxicological testing, the president of the accident investigation board may direct such testing. In the event the toxicological testing is directed by the president of the accident investigation board, the results will only be available to the accident investigation board.

4-4. Notification

a. The unit which experiences the accident or the first person to discover the accident will immediately notify:

(1) Their chain of command.

(2) Range Operations will be notified of all accidents occurring on ranges or in training areas lAW FLW Reg 210-14.

b. The chain of command or Range Operations will notify—

(1) During duty hours: MSO, 596-0116.

(2) Non-duty hours: Installation Operations Center (IOC) Watch officer, 563-6126.

c. Do not delay the report for incomplete information. Forward all available information immediately to MSO or the IOC Watch Officer.

d. MSO (duty hours) or the IOC Watch Officer (non-duty hours) will notify key personnel.

(1) IOC Watch Officer will be the first person notified and will immediately notify the Chief of Staff. The Chief of Staff will then determine time and location for key personnel to meet if necessary.

(2) The remainder of key personnel (see appendix E) will be notified of accident and time and location of meeting if required.

(3) List of current phone numbers of all applicable personnel (office and home) will be maintained at MSO and IOC Watch Officer.

e. MSO will immediately notify the CDR, USACRSC, by telephone at Defense Switched Network (DSN) 558-2660/4273/3410 and commercial number (334) 255-2660/255-3410). Utilize DA Form 7306 (Work Sheet for Telephonic Notification of Ground Accident) or DA Form 7305 (Work Sheet for Telephonic Notification of Aviation Accident). Provide all information contained on the form. Do not delay notification if information is not complete.

f. MSO will notify Headquarters (HQ), TRADOC, of all Class A and B accidents:

(1) Duty hours: HQ, TRADOC, Safety Office DSN: 680-3357.

(2) Non-duty hours: HQ, TRADOC, Emergency Operations Center DSN: 680-2256.

g. The DPW, Environmental Office, 596-8620, will be notified as soon as possible when hazardous materials are involved in an accident.

h. Key personnel will meet at the time and location determined by the CS. Based on the advice of the MSO DIR, the CS (after receiving guidance from the CG) will issue instructions to implement the investigation plan and appoint a board president (if USACRSC is not sending board members).

4-5. Accident scene preservation and security

a. Initially only those actions necessary for rescue or recovery of victims, prevention of further injury or damage, and the initial on-site investigation by MP/Criminal Investigation Division (CID) will be allowed. Whenever possible, photographs of the location of victims, vehicles, or equipment should be taken before movement.

b. The first CDR or highest ranking individual will take charge to ensure the accident scene is secured to prevent disturbance of the site or movement of wreckage and equipment until relieved by proper authority.

c. The president of the accident investigation board in conjunction with MP/CID will provide the securing unit with instructions on which personnel are allowed access to the accident scene.

d. MP/CID investigators and MSO personnel will normally be some of the first personnel on site. They will become familiar with the provisions of DA Pam 385-40, and shall brief personnel providing site security on their responsibilities. MSO and MP/CID personnel will coordinate on site to ensure all provisions are addressed.

e. If hazardous materials are involved, security guards will be placed a safe distance from the site.

f. If the accident is off post, MP/CID personnel must coordinate security requirements with the local police, sheriff, or highway patrol.

4-6. MSO responsibilities

a. Provides an accident investigator capable of responding within 2 hours of notification.

(1) Assesses situation at accident scene.

(2) Initiates investigation and information gathering.

(3) Advises the CS in preparing instructions for key personnel.

(4) Provides board member for the CAI team.

(5) Assists in logistical support for the CAI team.

b. Assumes overall responsibility for Installation Accident Investigations (IAI).

c. Coordinates/provides information to USACRC and HQ, TRADOC.

d. Ensures preliminary actions (see appendix F) are initiated by the appropriate FLW agencies. Responsibilities are outlined in this chapter.

e. Coordinates with MP and unit securing accident scene to ensure that proper procedures are followed.

f. Coordinates with USACRC to determine support requirements for CAI board members/advisors.

g. Identifies requirements/qualifications for local board members and provides information to the installation G-3 (for tasking).

h. Prepares accident investigation board appointment orders for the CG's (General Court Martial Convening Authority [GCMCA]) signature (see appendix G).

i. Coordinates with appropriate agencies to obtain personal, medical, training, and driving (OF 346, US Government Motor Vehicle Operator's Identification Card) records.

j. Obtains items listed at appendix F, from appropriate agencies.

k. Coordinates billeting for board members (if necessary).

l. Advises the president of the accident investigation board.

4-7. Board president authority/responsibilities

a. The board president will report directly to the MSCoE CDR.

b. The board president is responsible for conducting a timely, in-depth investigation IAW AR 385-10, DA Pam 385-10, and DA Pam 385-40.

c. The board president has authority delegated by the MSCoE CDR to determine the scope, equipment, technical assistance, and other support necessary to accomplish the investigation.

d. The board president has the authority to direct additional support tasking from installation organizations.

e. The board president will ensure that the safety accident investigation team has priority access to the accident scene, witnesses, and equipment involved. He/she will ensure that all collateral investigations have access to the accident scene and to witnesses once released by the accident investigation board.

f. The board president will become familiar with procedures and requirements contained in AR 385-10, DA Pam 385-10, and DA Pam 385-40, the current guidance from TRADOC (provided by TRADOC regulation or separate memorandum), and this chapter.

4-8. Provisions for command review and briefings

a. Findings and recommendations of the accident investigation board will be briefed to the appointing authority (normally CDR, MSCoE) and the chain of command of the unit involved, as soon as possible upon completion of the investigation.

b. The written report will be reviewed and approved IAW DA Pam 385-40 and current TRADOC guidance.

4-9. Board procedures

In order to conduct any Class A or Class B off-duty board, refer to AR 385-10, DA Pam 385-10, DA Pam 385-40, and TRADOC Reg 385-2.

Chapter 5
ACCIDENT REPORTS AND RECORDS

5-1. Accident reporting

a. Report all Class A and B accidents (as defined in DA Pam 385-40, chapter 4) telephonically through supervisor channels to the MSO.

b. Submit a DA Form 285-AB, Abbreviated Ground Accident Report (AGAR) using the online accident reporting system (Report-It), on all Army accidents. The AGAR guide or DA Pam 385-40 is required in order to complete the DA Form 285-AB if manually prepared.

c. Report all accidents involving the following situations regardless of the amount of money or time lost, using a DA Form 285-AB in accordance with DA Pam 385-40:

(1) Aircraft mishap.

(2) Explosives mishap.

(3) Army motor vehicle (AMV) accident.

(4) Army property.

d. Report all injuries sustained during off-duty activities/hours.

5-2. Processing of DA Form 285-AB

a. Submit a DA Form 285 AB to MSO within 15 working days of all Class C or D accidents on each person injured or involved.

b. Tenant and ITRO commands will forward an information copy of their branch version of the DA Form 285-AB to MSO within 15 working days of an accident.

c. MSO will review all DA Forms 285 IAW AR 385-10 and DA Pam 385-40.

5-3. Department of Defense civilian injuries/illnesses

Use the workers Compensation Act Forms, CA Form 1 and CA Form 2 to report and record all civilian accidents and occupational illnesses. Complete a DA Form 285-AB and forward to MSO within 15 days of the incident.

Chapter 6
SAFETY TRAINING

6-1. Commanders

a. CDRs are required to complete the Commanders Safety Course (CSC). The CSC provides CDRs the tools to manage their unit safety programs effectively and to incorporate Risk Management (RM) into all unit planning and activities. It leverages multimedia, web-based distance learning technology, and, as such, is accessible and easily retained for everyday use. The CSC is accessible through ALMS available online at <*https:/www.lms.army.mil/*>.

b. Company grade officers must complete the CSC prior to assuming command. BDE CDRs, or first O-6 in the chain of command, will certify that their officers have successfully completed the CSC prior to assignment as company CDRs. BDE- and BN-level command designees must complete the CSC prior to attending the Fort Leavenworth Pre-command Course. The USACRC is the course proponent for the CSC. A copy of the completion certificate will be retained by the individual Soldier and in the unit training file.

c. Civilian supervisors and managers will complete the one-time online the Supervisor's Safety Course and the Manager's Safety Course. This training is available for supervisors and managers at: <*https:/www.lms.army.mil/*>. A copy of the completion certificate will be retained by the individual and in the unit training file.

d. All CDRs will include safety instruction in any on-the-job training (OJT) programs. RM is essential for OJT programs.

6-2. Additional duty safety officer/collateral duty safety officer (ADSO/CDSO) personnel

a. ADSO and CDSO personnel are required to complete an online Additional Duty Safety Course (ADSC) <*https://www.lms.army.mil/Saba/Web/Main*>. The course focuses on ADSO/CDSO personnel from company through BDE level. The ADSC establishes the Army standard for trained and qualified ADSO/CDSO personnel.

b. MSO shall provide additional training to ADSO/CDSO personnel to ensure they can sufficiently perform ADSO/CDSO duties for their organizations. Training will include command, local, and safety OH requirements; evaluation and abatement of local hazards; local procedures for reporting and investigating allegations of reprisals; the recognition of local potential hazardous conditions and environments; identification and use of Army, command, and local required occupational safety and health standards; and other appropriate rules and regulations that will assist ADSOs/CDSOs in performing their duties.

c. ADSOs on active duty are required to complete the ADSC within 30 days of their appointment. Non-active duty guard and reserve personnel are afforded 90 days to complete the course. The new ADSC is hosted on the USACRC learning management system.

6-3. Holiday safety training

CDRs will ensure that personnel receive preholiday safety briefings. Numerous publications are available with useful information for such briefings. Appendix H contains a partial list. Generally, the content of the briefings is at the discretion of the CDR; however, at a minimum, briefings should cover the following:

a. The hazards/implications of driving while under the influence of alcohol or drugs.

b. The importance of properly planning trips, taking rest stops, and having someone assist with the driving responsibilities.

c. Seat belt and child safety seat requirements.

d. The hazards of driving too fast for road conditions.

e. Precautions for handling firearms.

f. Precautions for swimming, boating, fishing, and hunting, and off-duty activities.

g. Seasonal hazards, to include heat/cold injuries.

h. Motorcycle safety.

Chapter 7
BRANCH SAFETY PROGRAM

7-1. Purpose

To establish policies and delineate responsibilities for integrating safety into all areas of Engineer (EN), Chemical (CM), and Military Police (MP) Branch operations.

7-2. Policy

MSO has branch proponency of the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS); U.S. Army Engineer School (USAES); and U.S. Army Military Police School (USAMPS) safety programs. Safety will be integrated into all products for which the MSO has proponency, to include developments in the areas of doctrine, training, leader development, organization, materiel acquisition, and Soldier support.

7-3. Responsibilities

a. Installation CDR.

(1) Has the overall responsibility to ensure that safety is integrated into all areas of USACBRNS, USAES, and USAMPS proponency.

(2) Has signature authority for the combat developers' recommendation on residual risks designated as MEDIUM in System Safety Risk Assessments (SSRAs).

b. CMDTs of USACBRNS, USAES, and USAMPS will ensure that all MSCoE (as applicable) activities comply with this chapter.

c. Assistant Commandants (ACs) of USACBRNS, USAES, and USAMPS will—

(1) Ensure that all directorates comply with this chapter.

(2) Ensure that each directorate develops procedures to track safety integration.

(3) Provide feedback on safety issues to MSO.

(4) Provide students an opportunity (in the course critiques and formal AARs) to comment on unsafe training practices or conditions, the extent to which safety was emphasized in the course.

(5) Develop and implement a system to evaluate instructors on their attitude and actions for maintaining a safe training environment and for training future leaders on their safety responsibilities.

(6) Provide feedback on safety issues to MSO.

d. MSO DIR will—

(1) Establish goals, objectives, plans, and procedures for operation of the program in conjunction with the CMDTs, ACs, deputy ACs, and School DIRs.

(2) Evaluate the status of the program on a regular basis and provide feedback/advice to the CMDTs.

(3) Provide the following special staffing, as specified by HQ, TRADOC.

(a) Branch Safety Specialist. A SOH specialist (0018) will be tasked with assisting each school and branch in integrating safety into all areas.

(b) System Safety Engineer. A System Safety Engineer (803) will be tasked to assist the Capability Development and Integration Directorate (CDID) and other school directorates in integrating safety into the materiel acquisition process (developmental and non-developmental equipment, training

devices, materiel changes, product improvements, and user and technical testing), throughout the life cycle (conceptual development through fielding and disposal). Duty location is in CDID.

(4) Ensure that the job descriptions for safety professionals working with the schools and branches addresses requirements for branch-specific knowledge and experience.

(5) Develop and implement individual training plans to ensure safety professionals gain and maintain necessary knowledge of branch-specific equipment and operations and knowledge of TRADOC branch school operations.

(6) Maintains coordination with all school directorates, all training activities, TRADOC Safety Office, and branch liaison officers at USACRC.

(7) Review and provide comments on all programs of instruction (POIs), field manuals, training circulars, individual training publications (ITPs), course management plans, and other branch proponent publications prior to publication or implementation.

(8) In conjunction with U.S. Army Safety Center (USASC), provide quarterly analysis of branch accidents (lessons learned) and prepare documents for the CMDT's signature to be sent to CDRs worldwide.

(9) Monitor the integration of safety and RM into all school operations, training, and projects.

(10) Provide updated information on accident trends and countermeasures to branches as they become available.

(11) Evaluate leader development courses to ensure safety training is adequate.

(12) Provide safety release recommendations to TRADOC Safety Office. Provide safety release for locally sponsored tests and demonstrations when not available from U.S. Army Test and Evaluation Command (ATEC).

(13) Establish and maintain a comprehensive hazard tracking system for the purpose of logging and tracking hazards identified during or resulting from materiel development and acquisition, training development and operations, doctrinal changes, organizational changes, accident investigations, near-miss incidents, and lessons learned.

(14) Review the combat developer's position on the acceptability of residual risks for all SSRAs and provide an independent position as an appendix, if appropriate.

(15) Evaluate integration of safety into all MSCoE products and operations.

e. DIR, CDID—

(1) Ensures that system safety engineering and management principles are applied to all systems being considered for acquisition during all phases of the system life cycle.

(2) Provides the school combat developer's positions, coordinated with MSO, on the acceptability of residual risks for all SSRAs for each proponent system.

(3) Has signature authority for the combat development recommendation on residual risks identified as LOW in the SSRA.

(4) Ensures that all system safety requirements are identified in the appropriate sections of all requirements and management documents.

(5) Ensures that system safety concerns are addressed during the development of critical operational issues and criteria.

(6) Ensures that system safety issues are identified and addressed during the reliability, availability, and maintainability (RAM) requirements definition process.

(7) Ensures that all test documents are staffed with the system safety engineer for identification of safety-related test issues.

(8) Ensures that all market investigations performed by the materiel developer address system safety requirements.

(9) Ensures that all requests for proposals (RFPs) and other contractual documents received by the materiel developer are reviewed by the system safety engineer for verification that required MIL-STD 882 tasks are included.

(10) Ensures RM techniques are used to identify potential hazards that may arise during a system's development/fielding.

(11) Develops and maintains a system to track safety issues.

(12) Ensures system safety is represented at all manpower and personnel integration (MANPRINT) joint working groups (JWGs), test integration working groups (TIWGs), red team reviews, mission needs statement, and operational requirements JWGs. Provide the combat developer's representative to all system safety working groups.

(13) Ensures system safety issues and concerns are listed in the system MANPRINT management plan, along with proposed studies and analyses to resolve the issues, appropriate to the life cycle phase.

(14) Initiates materiel change management (MCM) programs to improve the safety, health, and human factors aspects of proponent systems.

f. Director of Training and Leadership Development (DOTLD).

(1) Develops and maintains a system to track safety issues.

(2) Ensures that RM techniques are used to identify and control or eliminate hazards in all training products and equipment used during training.

(3) Ensures that all POIs, field manuals (FMs), training circulars (TCs), Soldier training publications (STPs), Army training and evaluation program (ARTEP) manuals, ITPs, course management plans, and other publications are forwarded to MSO for review.

(4) Ensures that all lesson plans which are developed or reviewed by DOTLD to contain the appropriate safety considerations, both up front and throughout the lesson.

(5) Ensures that training device requirements and other related documents are coordinated with CDID for identification of RAM and system safety issues/requirements.

(6) Ensures that all residual safety, health, and human engineering hazards are addressed in all training developments, training courses, and associated publications.

(7) Ensures that a representative from DOTLD is present at all MANPRINT JWGs.

g. Army Materiel Command (AMC), Tank Armament Command (TACOM) Safety Engineer will-

(1) Ensures that branch safety-related problems associated with performance of installation logistics functions are brought to the attention of MSO for resolution.

(2) Ensures that copies of all quality deficiency reports (QDRs), Serious Incident Report (SIR), Equipment Improvement Reports (EIR), on equipment for which USACBRNS, USAES, or USAMPS is the proponent, are forwarded to DOTLD, MSO and DoD for their information and assistance.

h. CDRs/DIRs of training BDEs/Departments (1st EN BDE, 3d CM BDE, 14th MP BDE, and the CMDT, Maneuver Support Center of Excellence Noncommissioned Officer Academy (NCOA).

(1) Ensure that training is conducted in a safe manner. Use RM techniques as required by this regulation.

(2) Ensure that lesson plans contain safety considerations up front with the task, conditions, and standards as well as integrated throughout the lesson, as appropriate.

Chapter 8
INSPECTIONS

8-1. General

The primary purpose of safety inspections is to ensure a safe and healthful workplace, and to identify and correct unsafe conditions which may lead to accidents resulting in injuries, deaths, or other losses.

8-2. Type, frequency, and criteria

a. Standard Army Safety and Occupational Health Inspection (SASOHI). The MSO staff will conduct all installation high, moderate and special hazards inspections. ADSO/CDSO personnel will conduct all low hazard inspections IAW all applicable standards, and this chapter.

b. Local Safety Inspections. Unit safety officers/NCOs will conduct safety inspections of their unit using the SASOHI checklist and all annotations of discrepancies will be transferred to the FLW Form 944 (appendix I). Units must maintain the results of these inspections on file for 1 year. Facility Inspection frequencies are:

(1) Administration/Offices - Annually.

(2) Classrooms – Annually.

(3) Public Gathering Areas – Monthly.

(4) Army Reserve Tenant Units – Semi-Annually.

(5) Barracks Facilities - Monthly.

(6) Dining Facilities (DFACs) – Semi-Annually.

(7) Industrial Plant Operations – Semi-Annually.

(8) Heavy Maintenance Facilities – Semi-Annually.

(9) Chemical Defense Training Facility (CDTF) - Quarterly

c. Training Areas/Ranges. The CDR/DIR with user maintenance responsibility is responsible for ensuring that training area/range is inspected at least monthly. All occupied ranges and training areas will conduct a daily walk-through inspection to ensure that potential hazards are identified and reported to the Range Operations and IAW FLW Reg 210-14.

d. Special Safety Inspections. MSO will conduct special safety inspections in response to OSHA/safety violation complaints.

e. MSO will conduct the appropriate range/training area inspections IAW DA Pam 385-63, paragraph1-6b(3).

8-3. Corrective action/abatement plan

MSO will track safety hazard corrections/abatements as follows:

a. Units/directorates will contact MSO for a RAC assignment on all safety-related work orders.

b. MSO will post DA Form 4753 (Notice No. of Unsafe or Unhealthful Working Conditions) conspicuously at the work site for all hazards rated RAC 1 or RAC 2. Do not remove this form from the work site until the condition causing the hazard has been corrected.

c. MSO will track all RAC 1 and RAC 2 hazards using DA Form 4756 (Installation Hazard Abatement Plan).

Chapter 9
MOTOR VEHICLE ACCIDENT PREVENTION

9-1. Safe tactical vehicle operation

Tactical operations place special demands on vehicle operators due to stress, adverse weather/road conditions, fatigue, and blackout drives. Therefore, the following safety requirements will be observed:

a. CDRs conducting tactical operations will observe all normal safety standards to include speed limits, passenger transportation standards, vehicle maintenance standards, and emergency procedures. In some cases, these standards may require a deviation in order to accomplish the mission.

b. Standing operating procedures (SOP) for training related to vehicle operations will include safety procedures and policies.

c. CDRs will provide all drivers with a comprehensive motor vehicle accident prevention briefing prior to all maneuvers and field training exercises. This chapter contains the information pertinent to that type of briefing.

d. Prior to assignment as a driver, personnel must receive thorough training for the driving conditions anticipated during field training (driving in mountainous, desert, and winter environments).

e. All personnel who operate tactical vehicles under blackout drive conditions will receive drivers training for night operations. At a minimum, training will include the following: fundamentals of night vision, ground guide procedures, sensory illusions at night, effects of stress and fatigue, night driving road test, and speed limits.

f. Convoy CDRs will provide all drivers a safety briefing prior to departure. Information is available in AR 385-10, paragraph 11-6; FM-55-30; FM 55-1; and this regulation.

g. Tracked vehicles will have a track CDR when moving. (Vehicles such as the M-9 ACE and D-7 Bulldozer are exceptions, since the vehicle is only equipped for one person).

h. Personnel will not ride on top of armored vehicles or on top of truck cabs. When riding in the rear of a vehicle, personnel (except air guards) will not stand up or extend legs, arms, or heads out of the vehicle. Air guards in tracked vehicles will not extend their bodies any higher than name tag defilade out of the vehicle.

i. CDRs will prevent anyone from driving who are unlicensed, fatigued, intoxicated or unfamiliar with a vehicle. CDRs are responsible for the competence of personnel who drive vehicles in their command.

j. Wheeled vehicles (2 1/2 ton and larger) must use chock blocks when parked. All vehicles will have operational parking brakes.

k. Drivers will ensure that their windshields are clean and free of visual obstructions. All drivers, gunners/air guards, and passengers will wear goggles when windshields are down or missing.

l. Vehicles will be loaded according to load plans with equipment securely tied down.

m. Personnel working in and around vehicles will always ensure that they have an escape route in case the vehicles move unexpectedly. Personnel should never position themselves between two vehicles or between a vehicle and a fixed object. Particularly hazardous situations are ground-guiding vehicles to parking positions, slave-starting vehicles, and rail-loading operations.

n. Smoking is prohibited in and around all military vehicles.

o. Vehicle antennas will remain tied down when operating in the vicinity of overhead electrical lines. All antennas must have a tip on the end.

p. Personnel riding in tracked vehicles must wear a protective helmet when the vehicle is in motion.

q. Ensure that armored vehicle hatches are always properly secured with hatch pins in place. The crew must ensure that all personnel and objects are clear prior to rotating the turret.

r. The use of safety chains between trailers and prime movers is mandatory.

s. Post road guards to warn approaching traffic if a vehicle halts or is disabled in a location that might obstruct traffic.

t. Transporting troops in the bed of dump trucks shall only occur on an emergency basis and with extreme caution. When troops are transported in dump trucks, fixed seating will be installed and positive locking devices will be used to prevent accidental activation of lift controls.

u. Tailgates must be up with safety straps secured whenever transporting troops.

v. When transporting personnel in cargo truck convoys, the last vehicle in the convoy will not be used to carry passengers.

w. Army combat helmet (ACH) or hardhat will be worn by all personnel operating, riding in or on any tactical vehicle.

x. Personnel being transported in the cargo compartments of tactical or commercial vehicles will wear an ACH or hardhat. Hardhat users will utilize the chin-strap system. Newly arrival personnel that have not been issued an ACH, or have turned-in their ACH into the Central Issue Facility (CIF), are excluded.

y. Commercial vans with personal restraint system (seat belts) installed are excluded from this requirement.

z. Interservice Training Review Organization (ITRO) units are excluded and will abide by their respective Services guidance/regulation to ensure safe vehicle operation.

9-2. Driver education and training

a. IAW the provisions of DODI 6055.04, all Army personnel (Active Army, U.S. Army Reserve, and Army National Guard) under 26 years of age will receive the Intermediate Drivers Training.

b. The Accident Avoidance Course (AAC) is available at <*https://www.lms.army.mil/*>. Anyone who operates an AMV will have first completed the online AAC as part of licensing procedures. The training includes mishap risk management component of RM, personal responsibility, driving hazard awareness, defensive driving techniques, accident avoidance, and motorcycle safety.

c. Tactical vehicle drivers are required to complete additional vehicle specific training as required by AR 600–55.

d. The online AAC will be repeated every 4 years as part of the license renewal procedure.

e. Installation CDRs will establish a remedial driver training program to instruct and educate military personnel requiring additional training. Personnel will be identified for the program based on their individual driving records. The curriculum should provide instruction to improve driver performance and compliance with traffic laws.

f. CDRs/CMDTs will ensure driver education and training is conducted IAW AR 385-10, paragraph 11-7.

g. CDRs/CMDTs will implement the Army Traffic Safety Training Program (ATSTP).

9-3. Ground-guide rules

a. Unit CDRs and leaders at all levels must ensure the following:

(1) All unit personnel are properly trained to act as ground guides.

(2) Ground-guide procedures are incorporated into unit SOPs.

(3) Ground guides are used when vehicles are operating near other parked vehicles or within bivouac/assembly areas.

(4) Unit perimeter security personnel are briefed on their ground-guide responsibilities and are provided signaling equipment for use at night.

b. Supervisors basic rules.

(1) Know ground-guide procedures.

(2) Ensure your personnel know, understand, and follow those procedures.

(3) Observe ground-guide operations and make correction as needed.

c. A front ground guide will be used when moving off road or in and around assembly areas. A rear ground guide is necessary in addition to the front ground guide when reversing a vehicle with limited visibility. Drivers and ground guides must use the standard Army hand and light ground-guide signals.

d. Tracked vehicles (must be equipped with intercom) must use two ground guides when moving.

e. Special cases.

(1) Blocked vision. Vehicles equipped with visual modifications (VISMODs) will cause some reduced visibility for a driver. In most cases, problems occur only during close in forward movements and backing operations. A second ground guide will be used to relay signals to minimize the problem.

(2) Mirror vision. Drivers receiving signals from a ground guide through a mirror normally have difficulty. In most cases the ground guide can effectively guide the driver by standing off to the side of the vehicle in the driver's line of sight.

(3) Tractor/trailer movements. Two ground guides will be required for this operation.

9-4. Motorcycle operations and training

All operators of government or privately owned motorcycles (both street and off-road versions) on DOD installations must be appropriately licensed (state and local) to operate on public highways, meet all training requirements, and wear PPE IAW AR 385-10, paragraph 11-9. CDRs/CMDTs will—

a. Ensure each known or potential motorcycle rider is provided, reviews, and completes the TRADOC Statement for Motorcycle Operator Responsibilities and Individual Responsibilities at appendix J. Discrepancies will require follow up by leadership personnel to ensure that documentation is completed. Documentation will be maintained by supervisory personnel (as designated by the CDR) for future reference. Civilian employees are not required to sign the form; however, their supervisor will sign the form attesting that the civilian employee has been briefed. 1ID personnel will follow the appropriate guidelines set forth by their command.

b. Ensure security strictly enforces motorcycle licensing, operator training (Motorcycle Safety Foundation [MSF] card), and PPE standards at all entry points to military installations.

c. Ensure that Soldiers who operate motorcycles understand that the same licensing, training, and PPE requirements that apply for motorcycle operation on post also apply off post, whether on or off duty.

d. Ensure that additional training is strongly suggested for personnel who ride off-road motorcycles. The MSF training provides information for riding a motorcycle on the road only.

e. Ensure that all military personnel in their command who operate motorcycles on FLW are doing so in accordance with FLW Reg 190-5.

f. Ensure that all military personnel that own or operate a motorcycle have an MSF card in their possession when operating a motorcycle on FLW. This card is issued upon the completion of the MSF course. For clarification purposes, a moped is considered a motorcycle in this regulation.

9-5. All-terrain vehicle (ATV) operations and training

All operators of government or privately owned ATVs on DOD installations must meet all training requirements specified in DODI 6055.04 and AR 385-10, paragraph 11-9. Civilians with ATV requirements IAW position description will be trained by MSCoE Safety. CDRs/CMDTs/ supervisors will—

a. Review and complete TRADOC statement of ATV operator responsibilities and individual responsibilities (appendix J) with ATV operators. Leaders will ensure that documentation of all discrepancies is completed. Civilian employees are not required to sign the form; however, their supervisor will sign the form attesting that the civilian employee has been briefed. 1ID personnel will follow the appropriate guidelines set forth by their command.

b. Ensure security strictly enforces ATV requirements for events occurring on the installation. Environmental rules and regulations will also be closely followed.

9-6. Specialty vehicle operations and training

CDRs of organizations that utilize commercial off-the-shelf (COTS) utility vehicles, referred to as specialty vehicles (such as Segway HT, M-Gators, Gators, “Mule” utility vehicle, and aircraft-tugs), in garrison or tactical environments, will establish the following:

a. An SOP (appendix K) that includes, at a minimum, the training and safe operations, limits of operational work areas, PPE, and vehicle safety equipment requirements. Use letterhead format.

(1) All units/activities that use specialty vehicles will route their SOP through the MSO for endorsement.

(2) This will be an OIP critical inspection standard.

b. All government-operated specialty vehicle operators will conduct the online training at <*http://cbt.rohva.org/*>. Successful completion of the training will be annotated on a FLW Form 570-6 (Safety Education) card by the MSO. Print the online test results for verification.

c. Operators must possess a military operator’s permit with the vehicle qualification annotated on the operator’s OF 346 (U.S. Government Operators Motor Vehicle Operator’s Identification Card).

d. CDRs will establish “operational work areas” to limit the travel of non tactical specialty vehicles that are routinely used in garrison areas on Army installations. An operational work area is that area in which a specialty vehicle can travel that is not on a public or installation roadway, but still within the area of operation.

e. Manufacturer installed safety equipment will be maintained in working order.

f. Tactical specialty vehicles, such as the M–Gator, will not be driven on installation or public roads except to cross the roadway, and it will only be driven on a public roadway at designated crossing points or with a road guard.

g. Operators will not exceed the recommended load carrying capacity, personnel capacity, or maximum safe vehicle speed. Cargo items will be secured as necessary to prevent tipping.

h. Occupant-protective devices will be worn by operators and passengers of specialty vehicles that were installed by the manufacturer.

i. Adequate head protection is required for operators and passengers operating or riding in tactical specialty vehicles and for operators and passengers of non-tactical vehicles operated outside of the designated operational work areas.

j. For Segway HT, the minimum head protection standard for garrison operations is an approved bicycle helmet.

k. Operators of tactical specialty vehicles will wear approved head protection (helmet) that at a minimum conforms to Department of Transportation (DOT) 218 standards or equivalent, protective goggles or face shield, full fingered gloves, long sleeve shirt or jacket, long trousers, and over the ankle boots. CDRs may authorize the use of helmets that offer ballistic protection in lieu of DOT 218 standards when the tactical situation dictates such use.

(1) If the specialty vehicle is not equipped with rollover protection, the driver and occupants will be required to wear the approved headgear.

(2) If the specialty vehicle is not equipped with seat belts, regardless of rollover protection, approved headgear will be worn by all personnel within the specialty vehicle.

(3) Any operational work area that has been designated within an area of uneven terrain, hills, and slopes will wear an approved helmet.

l. Operators will wear approved head protection (helmet) that, at a minimum, conforms to DOT 218 motorcycle safety standards or equivalent, as well as passengers of non tactical specialty vehicles that are not equipped with manufacturer-installed rollover protection and are operated on installation or public roads that are outside the designated operational work area.

m. Non tactical specialty vehicles that are allowed to operate outside a controlled work area and on installation streets, roads, and highways will meet the minimum vehicle safety standards in accordance with 49 CFR 571.5, to include rollover protection, occupant protective devices, and placement of “Slow Moving Vehicle” emblems where required.

Chapter 10
FIELD SAFETY

10-1. Pyrotechnics and ammunition

a. Usage and handling. See AR 385-63 and FLW Reg 210-14.

b. Unexploded ordnance(UXO)/ammunition. A UXO is defined as an explosive item which has failed to properly function after completion of the firing sequence. Safety precautions regarding UXO’s will include the following:

(1) Under no circumstances will a UXO be touched, removed, or disposed of except by explosive ordnance disposal (EOD) personnel (763d EOD Detachment) only.

(2) Report the discovery of any UXOs immediately to the Range Operations Fire Desk at 596-2525. Range Operations will contact the proper agencies for handling and disposal. Utilize the three Rs: recognize, retreat, and report.

(3) Clearly mark the general area surrounding the UXO to minimize the risks of further contact and to facilitate location and disposal by EOD.

10-2. Bivouac/assembly areas

a. Carbon monoxide poisoning.

(1) Personnel will not sleep in parked vehicles while the engine is running.

(2) Ensure that adequate ventilation is available prior to operating generators, battery chargers, space heaters, and stoves.

b. Flammable liquids/fuels.

(1) Do not use gasoline or other flammable liquids as cleaners.

(2) Use extreme caution during refueling operations. Fuel handlers must be properly trained and licensed to dispense fuel. Fuel trucks must be properly grounded. A 10-lb ABC fire extinguisher, at a minimum, will be on site during this operation.

(3) Operational fire extinguishers must be readily available during refueling operations.

c. Vehicles.

(1) Minimize vehicle traffic through assembly areas.

(2) Do not route normal traffic through sleeping areas.

(3) Always use ground guides within the assembly areas (night and day).

(4) CDRs will ensure that routes into bivouac/assembly areas are either physically blocked or controlled by a manned dismount point.

(5) In an assembly area, a member of the crew must walk completely around their vehicle before starting it to ensure that it is safe to move.

10-3. Stoves and heaters

a. Tent stoves/heaters.

(1) Do not mix fuels. Heaters are designed for use with only one type of approved fuel at a time.

(2) Proper installation, operation, and maintenance of space heaters will be IAW applicable TM's and are mandatory. CDRs will ensure that the chain of command inspects heaters after set up and prior to lighting.

(3) Stove/heater operators must be properly trained and licensed, IAW AR 600-55.

(4) Stove/heater operators will keep a 5-lb ABC fire extinguisher on hand whenever a stove/heater is used.

(5) Stove/heater operators and supervisors will comply with FLW Reg 210-14, paragraph 3-27b.

b. Mess equipment.

(1) Position field ranges, immersion heaters, and stoves at least 24 inches from tent or building walls.

(2) If not on bare ground or concrete, place field ranges, immersion heaters, and stoves on sheet metal or in a sand box. When on an earth base, remove all grass and other combustibles within 48 inches of the equipment on all sides.

(3) Only licensed personnel may operate field ranges, immersion heaters, and stoves.

(4) Refueling points will be located at least 50 feet from any source of open flame.

10-4. Use of portable space heaters

a. Commercially procured space heaters are not authorized for use in Army field training or operations. Only those heaters authorized by the U.S. Army Soldier Systems Center are to be used. A listing of authorized heaters and guidance is available on the U.S. Army Public Health Command and Preventive Medicine Web site at: *<http://phc.amedd.army.mil/PHC% 20Resource %20Library/heaters-JusttheFacts05finalw-links.pdf>.* CDRs will publish a written SOP that embodies the principles of this policy.

b. The following procedures apply to authorized space heaters.

(1) Have competent individuals, familiar with leak test procedures, set up heaters. Only personnel trained, tested, and licensed IAW AR 600-55, chapter 6, will operate heaters. The responsible unit fire safety representative will inspect each heater before use.

(2) Set up, add fuel, use, and maintain heaters IAW the applicable TM. Use only the fuels specified in the applicable TMs that are approved for use.

(3) The only authorized modifications to heaters are those that are authorized by a modification work order or Safety of Use Message (SOUM).

(4) The use of any non-vented heater is prohibited. Use the vent stack provided with the heater to vent the heater exhaust to the outside of the tent, structure, or shelter.

(5) Ensure that all heaters are equipped with an emergency shutoff.

(6) Set heaters on a firm and level fireproof base, located in a marked area free from clothing or combustible material.

(7) Ensure that a fire watch is on duty any time solid or liquid fueled heaters are in use. Brief the fire watch on procedures for firefighting with appropriate extinguishing agent and early recognition of signs of carbon monoxide poisoning.

(8) Do not operate heaters while unattended.

(9) If the fuel tank is a separate component of the space heater, locate it on the outside of the tent or shelter.

(10) Do not use carbon monoxide detectors. They are not designed to or approved for outdoor use and do not have a means for calibration. Used in an outdoor environment, carbon monoxide detectors provide a false sense of safety and early warning.

10-5. Electrical

Prior to operating generators, radios, or antennas; personnel must follow the safety and operational guidelines in the appropriate TM for the equipment they are using. Electrical equipment can be dangerous, and all personnel should use extreme caution when using this equipment.

a. Generators.

(1) Personnel will use grounding stakes when operating generators IAW applicable publications.

(2) Turn off generators before hooking up additional loads.

(3) Operators must be licensed on the type of generator they will operate.

(4) Do not store fuel cans on generator trailers while the generator is running.

(5) When operating generators, personnel will keep a serviceable 10-lb ABC fire extinguisher on hand at a minimum.

b. Radios.

(1) When working with equipment powered by lead acid batteries, keep matches and other flames away from the battery and its gases/vapors.

(2) When working with batteries, remove all watches and rings. Disconnect positive lead first when removing power source, and always connect the positive lead last when installing.

(3) Under no circumstances will operators attempt to repair radio transmitters or receivers.

(4) Only trained personnel will operate communications-electronics equipment.

(5) Before operating radios, ensure that antennas are grounded and that they are no closer than two antenna lengths from electrical sources.

(6) All vehicle mounted radios should be turned off prior to starting the vehicle.

(7) The antenna connections of high-powered radio equipment are dangerous. Do not touch them while the radio is being operated. Ensure that the antenna is clear of all objects prior to operating.

(8) Ground all required equipment IAW applicable publications.

c. Vehicles equipped with radio antennas.

(1) Operators of vehicles equipped with radio antennas should be familiar with the fire and electrocution hazards associated with antennas contacting overhead power lines.

(2) Antennas will be clipped under the antenna-retaining clip when vehicles are operated in areas that may have overhead power lines.

(3) Vehicle operators should not stop their vehicle under power lines. This could increase the risk of an electrical shock if the antenna tie-down fails.

(4) When antennas on tracked and wheeled vehicles are secured, they will be tied down to a height of between 8 feet and 13 feet. The ends of the antennas will be blunted with an antenna tip assembly, antenna ball, and tie-down kit.

(5) Antennas will be removed and stored inside the vehicle before loading onto the rail car.

10-6. Range medical support

Medical support will be available for emergency assistance during all range operations and IAW FLW Regulation 210-14, paragraph 3-25.

Chapter 11
SOLDIER MOVEMENT ON FOOT

11-1. Purpose

This regulation prescribes limitations, requirements, and general safety precautions necessary to safely move Soldiers on foot, in order to decrease the possibility of accidents and injuries. The intent of this chapter is to set conditions for troop formations to safely march and conduct physical training (PT) runs without conflicts with vehicles.

11-2. Responsibilities

a. CDRs/DIRs will—

(1) Ensure that all personnel in charge of formations know the standards contained in this chapter and comply with these standards.

(2) Ensure that all personnel know the standards when driving a vehicle approaching and passing a troop formation.

(3) Ensure that road guards and safety personnel are properly selected and briefed on their duties.

(4) Use Risk Management (RM) IAW chapter 12 of this regulation.

(5) Ensure that proper safety equipment (reflective vests and flashlights) is provided for formations.

(6) Ensure that stragglers are controlled so they do not create or become a safety hazard.

b. DES will—

(1) Issue tickets to vehicle drivers that violate passing rules.

(2) Report violations by troop formations to the chain of command.

c. DPW will provide adequate signs to alert drivers of 10 miles per hour (MPH) speed limit when passing troop formations.

d. Army Community Service will ensure that information on the standards for vehicles passing troop formations is included in the monthly newcomers orientation.

e. PAO will ensure that the rules for vehicles passing troop formations are publicized.

11-3. Policies

a. Soldier movement on foot is considered to be training. All wet bulb and wind chill command guidance remains in effect.

b. Soldiers in formation will make maximum use of existing troop trails even though the distance via troop trails will be greater than a more direct route.

c. Soldiers in formation will be marched on the far right side of the road on which vehicular traffic is expected.

(1) Formations travel in the same direction as traffic (when on two-way streets).

(2) Formations will not take up more than one traffic lane.

d. CDRs will select marching routes which require a minimum of travel on major roads.

e. Marching troops have priority over all vehicles, except emergency vehicles on FLW.

f. It is imperative that all drivers obey all traffic signs and published traffic regulations regarding marching troops.

g. The officer in charge (OIC) and noncommissioned officer in charge (NCOIC) of marching Soldiers are responsible for enforcing traffic regulations as they pertain to marching Soldiers.

h. Marches will be conducted IAW FM 21-18.

i. Units consisting of 50 troops or less will be marched in a column of twos to reduce/eliminate crowding the road.

j. Soldiers will be briefed/trained of their responsibilities as road guards.

k. The number of persons marching on the road side of a marching unit will be kept to one per platoon, plus one cadence caller per company. See Figure 11-1 of this chapter.

11-4. Crossing roads/intersections

a. Road guards will be positioned to stop vehicles before Soldiers are moved across a road or into an intersection.

b. Road guards will exercise extreme caution to avoid giving vehicle operators cause for abrupt stops or other actions which might result in accidents.

11-5. Vehicles passing formations

a. The speed limit when approaching or passing a troop formation from either the front or rear is 10 MPH.

b. Motorists will not jeopardize the safety of troop formations. If the potential exists and where a vehicle operator is in doubt of safely passing a formation, the vehicle operator will stop and await instructions from the person in charge of the formation.

c. Motorist must adhere to the provisions of FLW Reg 190-5.

d. Troop formations have right-of-way over all vehicles, except emergency vehicles.

e. Motorist are encouraged to take an alternate route if possible during hours of PT.

11-6. Safety personnel

a. Safety personnel will be employed to the front, rear, and flanks of all marching units, see figure 11-1 of this chapter.

b. All safety personnel will be equipped with the reflective vest.

c. Safety personnel and road guards will be designated in each element of a marching unit and will be positioned at all intersecting roadways in the direction of the march.

d. Front and rear road guards will be positioned 30 meters to the front and rear at all times.

e. Road guards will be positioned in sufficient time to stop oncoming traffic prior to Soldiers entering an intersection.

11-7. Safety devices

a. Flashlights or other lighting devices will be carried at all times by personnel and utilized whenever light conditions are poor.

b. A flashlight, with a clear lens will be used with the baton, traffic directing (national stock number [NSN] 6230-00-691-1407).

c. They will be actively used to attract the attention of approaching vehicles.

d. For small formations the person in charge will carry a flashlight. At a minimum, the Soldiers at the front, middle, and the rear of the column will wear a reflective vest and carry a flashlight.

e. As a minimum, all personnel marching to the left side of a formation will wear a reflective arm band on the left sleeve or a reflective vest. Reflective arm bands, (NSN 8465-00-177-4977) are available through unit supply channels. Reflective leg bands can be worn in lieu of the reflective arm band with the PT uniform.

11-8. Soldier movements

a. Soldier movements within the installation will comply with the provisions of FM 21-18.

b. Personnel observing any unsafe acts within a formation will take immediate action to correct the deficiencies in a positive manner.

11-9. Marching in the cantonment area

a. The cantonment area is defined as the area between the Main Gate (north), Forney Airfield (south), Indiana Avenue (west) and the Oklahoma Avenue/Minnesota Avenue (east).

b. Tactical road marches are not authorized in the cantonment area except when a unit is in transit to range, training areas and to utilize the troop trail.

c. Units will not block troop transportation vehicles.

d. Control of stragglers.

(1) Personnel unable to remain with the formation will immediately go to the extreme right side/shoulder of the road and, if possible, continue in the direction of the formation.

(2) Safeguard stragglers by one or both of the following methods:

(a) Use cadre/ NCOs, with appropriate safety equipment such as reflective vests, to follow and control stragglers.

(b) Use a trail vehicle to pick up/follow stragglers.

(3) Stragglers will not remain in the roadway.

11-10. Outside the cantonment area

a. Units moving to ranges or training areas will conduct tactical road marches IAW FLW Regulation 210-14 and FM 21-18.

b. Units engaged in tactical exercises will use formations that are commensurate with safety and cause the least interruption in routine traffic.

c. The following modifications are authorized while marching outside the cantonment area:

(1) To preserve light discipline, lights for tactical road marches will be limited to front and rear road guards.

(2) During tactical road marches outside the cantonment area, a minimum of two road guards (front and rear of the formation) will wear reflective vests and carry flashlights.

(3) While crossing any paved FLW lettered or numbered roads, road guards controlling traffic will wear reflective vests and carry flashlights.

d. Trail vehicles will be provided by the marching unit as outlined in FLW Reg 210-14.

(1) Trail vehicles will be used IAW FLW Reg 210-14 outside the cantonment area.

(2) A trail vehicle will follow marching units at a distance to maintain visual contact with the end of the unit.

(3) Trail vehicles will not travel ahead of the marching unit.

(4) Vehicles will not be overloaded and safety precautions will be followed at all times.

e. Individuals who drop out of formation due to injury or physical deficiency will be furnished transportation or be escorted to an assembly point by a NCO.

f. Units departing the cantonment area will establish radio communications IAW FLW Reg 210-14.

11-11. Physical training formations

a. For the purposes of this regulation, PT runs in formation are considered marching troop formations and all rules apply.

NOTE: Working road guards need not be posted at barricaded intersections unless the CDR deems it necessary to control access to the area.

b. A formation is considered to be any separate and distinct unit responding to the commands of one individual (for example, company, platoon, PT track, or ability group). Formations consisting of less than 20 personnel should run in no more than two columns.

c. PT formations will not stop in the road to perform exercises or stretching.

d. Stragglers and fall-outs. Soldiers who fall out or are straggling behind their formations will move as far to the right as the shoulder of the road will permit.

NOTE: For the purpose of this regulation, fallouts and stragglers are any personnel who fall behind the rear road guards in their formation.

e. Injured Personnel.

(1) Injured personnel should be assisted by members of their unit off the paved surface and onto the grass or sidewalk for their safety.

(2) Common sense will determine if the Soldier can be moved. If the Soldier's injury prevents movement, the unit must provide road guards with reflective vests and flashlights to guide traffic around the injured Soldier.

11-12. Major road crossings and intersections

a. Units will cross major roads/intersections at a double-time.

b. Extreme caution will be exercised by leaders when employing any movement outlined above.

11-13. Conflicting formations

When more than one company is marching along the same route, a minimum of 100 meters must be maintained between companies to preclude lengthening traffic delays at intersections.

11-14. Minimum standards for road guard briefing

a. The primary duty as a road guard is to protect the formation from vehicles traveling along the route.

b. A reflective vest must fit properly and reflective material must be visible from front and rear.

c. Ensure that the vehicles approaching the formation see you and the formation. Signal traffic to stop or slow down, as required.

d. Do not jump out in front of traffic. This may startle drivers and create an even greater hazard. Get driver's attention as soon as possible. Do not wait until last minute. Use flashlight or wave arms to get the driver's attention. Be prepared for unexpected hazards.

e. Stop traffic at all intersections. Position yourself so that vehicles can readily see you and recognize your function as a road guard. Ensure that the drivers positively recognize that you want them to stop. Do not attempt to stop the vehicle with your body.

f. Do not assume the role of traffic control.

g. If you see a violation, record the vehicle license number and report it through your chain of command.

h. Do not "horse around" in any formation.

i. Road guards are not responsible for stragglers.

11-15. Command and control

a. The marching unit CDR/cadence caller will march on the road side of his/her unit, keeping to the right of the center line.

b. Platoon sergeants will march in a position where they can make necessary corrections and ensure the safety of the unit.

11-16. Cantonment run/road march areas

a. General policies.

(1) Whenever possible troop formations or other group activities will limit movement on improved roadways.

(2) Exceptions for use of restricted/off-limits roads will be approved by the DPTMSS, prior to the activity/event and will be announced to the public.

b. Family housing areas. PT/marching formations will not enter housing areas.

c. Off-limits areas. The following roadways within the FLW boundaries are off limits to any and all troop movement on foot (this includes individual and group/formation activities):

(1) Polla Road.

(2) Missouri Avenue.

(3) FLW 10 from the east gate to FLW K. (Except the area between FLW K and Nebraska Avenue from 0500-0730).

d. Off limits to troop movement.

(1) The following streets will be off limits to troop movement except to cross or for short distances (not more than 200 yards). This will ensure that any unit that is within an off-limits road-blocked area can access the “authorized,” “safe and secure” run routes within the cantonment areas. Proper road guard procedures are required IAW this regulation during the crossing of any designated off-limits roads/areas. This will allow vehicles to travel the major arteries while troop formations are on less traveled roads.

(a) Pulaski Avenue.

(b) Water Intake Road.

(c) North Dakota Avenue.

(d) Alabama Avenue.

(e) Nebraska Avenue.

(f) Indiana Avenue.

(2) Iowa Avenue (EXCEPT between the hours of 0500 to 0645 Monday through Saturday. Iowa Avenue will be open for PT running formations from 4th Street South to South Dakota Avenue).

NOTE: Iowa Avenue, north of 4th Street and south of South Dakota Avenue is unauthorized troop formation area.

(3) Replacement Avenue from the area of Nebraska Avenue to Iowa Avenue.

(4) Buckeye Avenue from Indiana Avenue to Alabama Avenue.

(5) Headquarters Avenue.

(6) Hawaii Avenue.

(7) Constitution Avenue (EXCEPT between the hours of 0500 to 0645 Monday through Saturday).

(8) FLW 1 (Iowa Avenue) from South Dakota to the FLW South Gate.

(9) FLW 25 from the FLW East Gate to the bi-sect of South Demolition Road (FLW 32). PT is unauthorized.

e. Authorized run/road march areas. The following streets are authorized run/road marching areas within FLW. Unit trail vehicles will be kept at a minimum within the authorized running area. “Authorized for individual and formation activities”.

(1) Ordnance Drive.

(2) Railroad Street.

(3) Quartermaster Street.

(4) Louisville Avenue.

(5) Oklahoma Avenue.

(6) Michigan Avenue.

(7) Minnesota Avenue

(8) East Second Street.

(9) East Forth Street.

(10) East Fifth Street.

(11) MP Drive.

(12) Army Avenue.

(13) Elm Street.

(14) Sycamore Street.

(15) Replacement Avenue, from First Street to Nebraska Avenue.

(16) Cooley Avenue.

(17) East Nineteenth Street, from Nebraska Avenue to Iowa Avenue.

(18) Buckeye Avenue (except for the off-limits area between Indiana Avenue to Alabama Avenue.

(19) Oak Street.

(20) Virginia Street.

(21) West Forth Street.

(22) West Sixth Street.

(23) West Seventh Street.

(24) West Eleventh Street.

(25) West Twelfth Street.

(26) West Sixteenth Street.

(27) West Twentieth Street.

(28) Caisson Drive.

(29) New Battery Street.

(30) Arkansas Avenue.

(31) Colorado Avenue.

(32) Minnesota Avenue, from First Street to Nebraska and Indiana Avenue to Iowa Avenue.

(33) First Street/FLW 10 (only during the hours of 0500-0645, between FLW K and Nebraska Avenue).

(34) South Demolition Road (FLW 32).

(35) FLW 25 from the bi-sect of South Demolition Road and FLW 25, south to FLW N.

(36) FLW N.

(37) Gas Street.

(38) FLW KA.

(39) FLW K.

(40) MSCoE Building Loop.

(41) Kansas Avenue, from Iowa Avenue to Indiana Avenue.

NOTE: Road marches shall be authorized for use through Range Operations, DPTMSS prior to execution and conducted IAW FLW Reg 210-14. All personnel utilizing these areas must exercise extreme CAUTION due to the heavy vehicular traffic. PT is unauthorized on FLW 25, from FLW 32 to FLW 10.

f. Safe and secure areas. The following areas/roads are within the FLW safe and secure run routes, during the hours of 0500-0645 (Mon-Sat). Vehicles are unauthorized within the safe and secure running area, except during emergency situations. These roads are off-limits to any and all troop movement outside the set "safe and secure" times.

(1) Iowa Avenue, from Replacement Avenue to South Dakota Avenue.

(2) Constitution Avenue, from Replacement to South Dakota Avenue.

(3) Minnesota Avenue, from Nebraska Avenue to Iowa Avenue.

(4) Kansas Avenue, from Iowa Avenue to Nebraska Avenue.

(5) South Demolition Road (FLW 32) from 0500-0730, Monday thru Friday.

(6) FLW 20, from Indiana Ave to FLW 5 (CDTF overflow parking area).

(7) FLW 15/Big Piney Road, from Nebraska Avenue south to the ASP entry road from 0615-0745 Monday thru Friday.

g. Individual run routes. The following areas/roads are authorized for individual PT only:

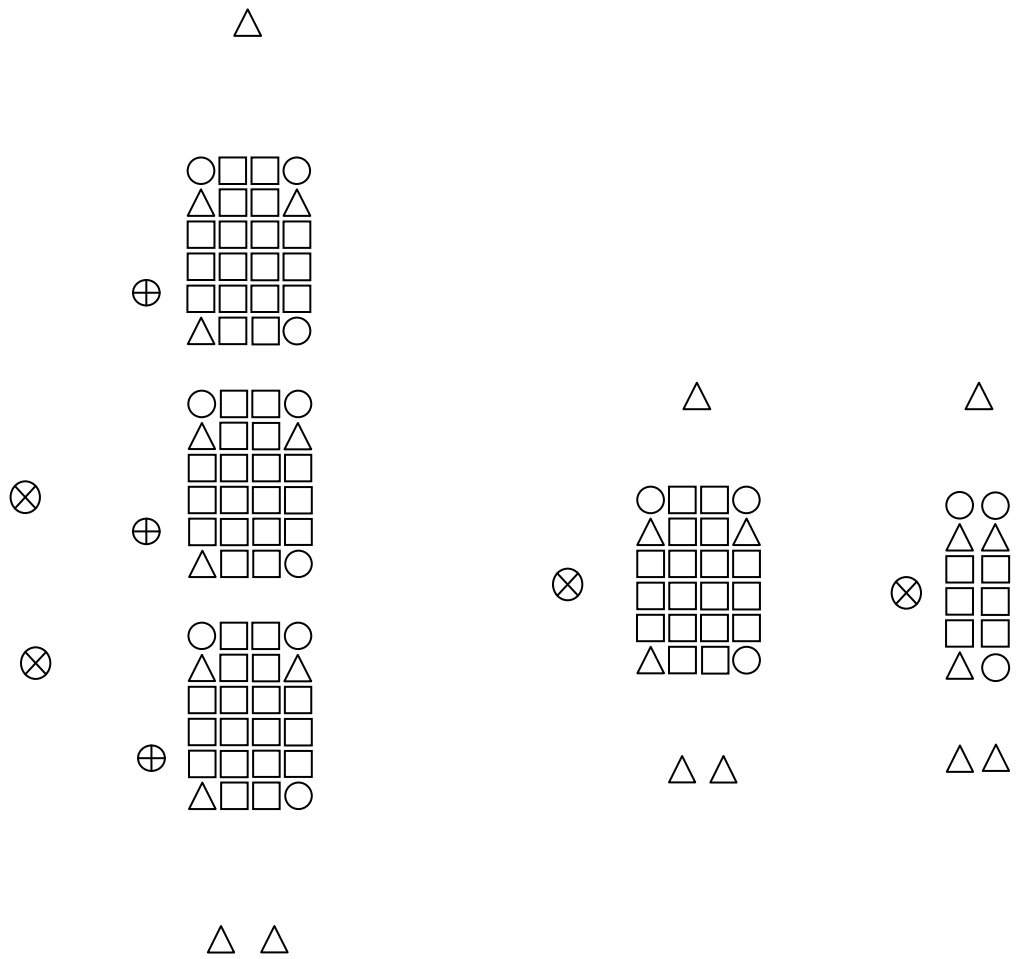
(1) Nebraska Avenue, from First Street to South Dakota Avenue.

(2) Replacement Avenue, from Nebraska Avenue to Buckeye Avenue.

(3) Iowa Avenue, from North Dakota Avenue to Replacement Avenue.

(4) Illinois Avenue, from North Dakota Avenue to First Street.

NOTE: A copy of the FLW PT map can be obtained at the MSO SharePoint site at <*https://sp.wood.army.mil/sites/MSCoE/Safety*> or requested via e-mail (electronic copy) from MSO personnel @596-0116.



Legend:
⊕ = Cadence caller/formation controller with vest/arm band/leg band
⊗ = Cadre with arm band/leg band.
△ = Minimum road guards with reflective vest. (with flashlights during low visibility periods)
○ = Personnel with reflective vests

Figure 11-1. Road Guard, Cadre, and Cadence caller Positions

NOTE: Forward and rear guards will stay within 30 meters of the formation.

Chapter 12
RISK MANAGEMENT

12-1. Purpose

To provide policy and guidance on the use of RM.

12-2. General

a. RM is the Army's primary decision making process for identifying hazards and controlling risks across the full spectrum of Army missions, functions, operations, and activities. It is used to mitigate risks associated with all hazards that have the potential to injure or cause fatalities, damage or destroy equipment, or otherwise impact mission effectiveness. RM principles and process will apply to on- and off-duty operations/activities. RM and accident prevention are inherent command functions. Refer to FM 5-19 for detailed RM guidance.

b. The RM process is continuous and cyclical in nature and applies from initial planning through after-action review. CDRs will accept no risk unless the benefit outweighs the potential loss and will ensure that the risk decision is made at the appropriate level.

12-3. The RM process

a. RM is the process of identifying and controlling hazards to protect the force and is a continuous process applicable to any situation and environment. The five- step process is the CDR's principal risk reduction process to identify and control hazards and make informed decisions. The five steps represent a logical and systematic thought process from which users develop tools, techniques, and procedures for applying RM in their areas of responsibility.

(1) Identify hazards to the force: Consider all aspects of current and future situations, environments, and known historical problem areas.

(2) Assess hazards to determine risks: Assess the impact of each hazard in terms of potential loss and cost based on probability and severity.

(3) Develop controls and make risk decisions: Develop control measures that eliminate the hazard or reduce its risk. As control measures are developed, risks are re-evaluated until the residual risk is at a level where the benefits outweigh the cost. The appropriate decision authority then makes the decision.

(4) Implement Controls: Implement controls that eliminate the hazards or reduce their risks: Ensure that the controls are communicated to all involved.

(5) Supervise and evaluate: Enforce standards and controls. Evaluate the effectiveness of controls and adjust/update as necessary. Ensure that lessons learned are fed back into the system for future planning.

12-4. RM basic principles

a. Integrate RM into all phases of missions and operations, planning, preparation, execution, and recovery. Apply the process cyclically and continuously and conduct assessment as conditions change.

b. Make risk decisions at the proper level in the chain of command. This depends upon the level of risk involved.

c. Accept no unnecessary risks.

d. Accept risks only if the benefits outweigh the costs. The potential gain or benefit must outweigh the potential loss in terms of accidents. Otherwise, the risk should not be accepted.

12-5. Risk approval authority

a. Risk decision authority is based upon the residual risk of an activity after application of control measures. The MSCoE CG has established risk acceptance authority as follows:

(1) Extremely High risk:

- CG.
- General Officers CMDTs/CDRs.

(2) High risk:

- DtCG.
- MSCoE CS.
- BDE CDRs.
- Garrison CDR.
- Commandants and inter-Service detachments in the grade of Colonel (O-6).

(3) Moderate risk:

- BN CDRs.
- Commandants in the rank of lieutenant colonel.
- CMDT, NCOA.
- CMDT, Prime Power School.
- Directors (in the grade of GS-13 or GS-14).

(4) Low risk: Any commissioned officer, GS-11 or GS-12, and E-8 or E-9

b. The MSCoE CG Is the approval authority for MODERATE risk SSRAs, part III, recommendations by combat developers.

c. MSCoE CG has identified the following ranges as HIGH risk:

(1) RG-4 Night Infiltration Course.

(2) RG-12 Fire Maneuver Range.

(3) RG-31 Grenade Range.

d. CS of USACBRNS, USAES, and USAMPS—

(1) Will ensure that RM is integrated into all activities and training and doctrinal publications of USACBRNS, USAES, and USAMPS.

(2) Will be approval authority for EXTREMELY HIGH risk assessments for temporary missions when designated in writing as the acting commanding general and for the term of the appointment orders.

(3) Will ensure that all training products are staffed through MSO for review of the integration of safety and RM. Ensure that a risk assessment for the training is provided along with the training product.

(4) Ensure that all lesson plans and outlines that have an EXTREMELY HIGH risk level are forwarded through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(5) Will ensure that all training developers and doctrine developers complete RM training as required by the Army or TRADOC.

(6) Will ensure that RM instruction is included in each leader development course.

(7) Ensure that all personnel are encouraged to practice RM as a way of life, on and off duty.

(8) Ensure that privately owned vehicle (POV) risk assessments are completed as required prior to holidays and leave/passes.

(9) Include RM as an evaluated item during OIP inspections of subordinate units.

e. MSO DIR will—

(1) Develop and distribute policy and procedures for application of RM within MSCoE.

(2) Ensure that all safety specialists, safety engineers, and safety technicians within MSO have received RM training to be able to perform their required duties within the RM program.

(3) Provide RM training to all newly appointed ADSO and safety NCOs as well as civilian supervisors and safety representatives or ensure that these personnel receive adequate RM training provided by the Army, TRADOC, or IMCOM.

(4) Instruct RM classes as requested and as available.

(5) Review and analyze RM for all EXTREMELY HIGH or HIGH risk operations and training and make recommendations to the appropriate approval authority about approval or disapproval of the risk assessment.

(6) Review all lesson plans, training support packages (TSPs), and other training products developed by USACBRNS, USAES, or USAMPS to evaluate adequacy of safety and RM integration. This includes an evaluation of the risk assessment provided with the training product.

(a) Evaluate for both safety in training (safety integrated into the training product such as dangers, warnings and cautions) and safe training.

(b) For training products that are classroom instruction only, using no unusual equipment, and for which the training developer has completed a risk assessment that is LOW risk.

(7) Provide oversight of the conduct of the RM program through inspections and evaluations, to include spot checks, providing feedback to CDRs and leaders. Include RM as an evaluated item during OIP inspections of units and organizations.

(8) Provide advice and guidance on RM to all organizations and units, as needed.

(9) Review deviations to range and training area SOPs, POIs, and TSP’s, or other approved documents.

f. Director of Training and Leader Development (DOTLD) will—

(1) Ensure RM instruction is included in each leader development course.

(2) Staff all training products through MSO for review, for evaluation of the integration of safety and RM. Ensure that a risk assessment for the training is provided along with the training product.

(3) Forward lesson plans and outlines that have an EXTREMELY HIGH risk level through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(4) Ensure that all training developers and doctrine developers complete RM training, or as required by the Army or TRADOC.

g. DIR, CDID—

(1) Is the delegated signature authority for TRADOC positions on LOW risk System SSRAs for all materiel systems, including training devices.

(2) Will develop positions for materiel developer's SSRA for proponent materiel systems, including training devices.

(3) Will ensure that system safety and environmental issues are integrated into the combat development process.

(4) Will forward lesson plans and outlines that have an EXTREMELY HIGH risk level through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

h. Garrison CDR will—

(1) Serve as approval authority for HIGH risk assessments completed by the training unit for all range operations.

(2) Serve as approval authority for HIGH risk assessments for operations within Garrison Command organizations and units.

(3) Ensure that all risk assessments that have an EXTREMELY HIGH risk level are forwarded through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(4) Ensure that all new risk activities assessed as HIGH are forwarded to MSO, for review and comment, prior to the activity being executed.

(5) Review any significant deviations to range SOPs, POIs, or other documents that control range operations.

(6) Ensure that all Garrison Command personnel complete required RM training.

(7) Include RM as an evaluated item during OIP inspections of subordinate units and organizations.

(8) Ensure that all personnel are encouraged to practice RM, on and off duty.

(9) Ensure that POV risk assessments are completed as required.

i. CDR, Combat Training Company (CTC), will—

(1) Ensure that RM is effectively used in the operation of all ranges.

(2) Ensure that risk assessments are reviewed for all range operations conducted by the training unit, as applicable.

j. DIR, DPTMS, will—

(1) Review any significant deviations to range SOPs, POIs, or other documents that control range operations.

(2) Ensure RM is integrated into all operations and plans.

k. BDE CDRs will—

(1) Forward all risk assessments that have an EXTREMELY HIGH risk level through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(2) Ensure that all new activities assessed as HIGH risk are forwarded to MSO, for review and comment, prior to the activity being executed.

(3) Ensure HIGH risk ranges and training operations that have been properly mitigated to the moderate level have been reviewed by an O-6 and signed in “Review of Risk Management Section” in block 18 of the FLW Form 661 acknowledging their concurrence with the battalion commander’s approval and assessment. The following ranges have been identified as HIGH risk.

(a) RG-4 Night Infiltration Course.

(b) RG-12 Fire Maneuver Course.

(c) RG-31 Grenade Range.

(4) Serve as approval authority for all HIGH risk assessments within their BDE.

(5) Review any significant deviations to training area SOPs, POIs, or other documents that control training area operations. Forward these deviations to DPTMS (routed through MSO), for review.

l. BN CDRs will—

(1) Provide detailed oversight for the BN’s RM program.

(2) Ensure that RM is completed by their personnel and properly reviewed.

(3) Enforce guidance of this regulation.

(4) Forward all risk assessments that have an EXTREMELY HIGH risk level to the BDE CDR to be forwarded through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(5) Ensure that all new activities assessed as HIGH risk are forwarded to MSO, for review and comment, prior to the activity being executed.

(6) Review any significant deviations to training area SOPs, POIs, or other documents that control training area operations prior to implementation. Forward these deviations through the BDE CDR, which will route them through MSO and DPTMS, for review.

(7) Ensure that all personnel complete required RM training.

(8) Ensure HIGH risk ranges and training operations that have been properly mitigated to the moderate level have been signed by an O-5 Battalion Commander in block 13 and reviewed and signed by an O-6 Brigade Commander in "Review of Risk Management Section" in block 18 of the FLW Form 661 acknowledging their concurrence with the battalion commander's approval and assessment.

(9) Ensure that POV risk assessments are completed as required.

(10) Include RM as an evaluated item during OIP inspections of subordinate units.

(11) Ensure that one of the company top 3 are present at all HIGH risk range operations.

m. All leaders will—

(1) Provide RM guidance to lower levels.

(2) Enforce guidance within this regulation.

(3) Ensure integration of RM into plans and execution of all operations.

(4) Make risk decisions at the appropriate level IAW FM 5-19 and this regulation.

(5) Enforce control measures for the hazards identified on FLW Form 661 (Fort Leonard Wood Risk Management Work Sheet). Tenant units may utilize FLW Form 661, DA Form 7566 or, their equivalent risk management form.

(6) Determine effectiveness of control measures and make necessary changes to guidance and controls.

(7) Forward all risk assessments that have an EXTREMELY HIGH risk level through MSO, to the CG, for approval. Clearly identify what makes the risk EXTREMELY HIGH and the actions that are being taken to reduce or eliminate the risk.

(8) Forward all risk assessments that have a HIGH risk level to MSO, for review and comment, prior to executing the mission.

(9) Ensure a review of the daily and operational risk assessment is conducted prior to the start of each day or iteration of training/operations, to ensure that conditions have not changed.

(10) Include risk information in job descriptions as appropriate.

(11) Establish procedures to monitor and check risk assessments performed by subordinate units.

(12) Ensure that all risk assessments for operations are reviewed and signed by the new approving authority.

(13) Ensure that all personnel complete required RM training.

(14) Ensure that POV risk assessments are completed as required.

(15) Include RM as an evaluated item during OIP inspections of subordinate units.

(16) Maintain the risk assessment for an operation at the location where the mission or activity will be performed.

n. Unit S-3s will—

(1) Develop input for CDR's RM policy and guidance.

(2) Coordinate RM for each course of action in the decision making process and provide these to subordinate units as necessary.

(3) Ensure that RM is integrated into all operations and plans.

(4) Include RM in the military decision making process (MDMP).

o. Unit ADSO (military and civilians)/NCO/CDSO will—

(1) Assist unit personnel in the conduct of RM.

(2) Conduct training in the practice of RM.

p. ITRO detachments will—

(1) Ensure that RM is included in joint training IAW this regulation.

(2) Complete POV risk assessments as required by this regulation or other applicable guidance.

q. Unit environmental compliance officers (ECOs) will—

(1) Conduct training on environmental risk.

(2) Assist unit safety officer and personnel in the conduct of environmental-related RM.

r. Individuals will—

(1) Understand and implement RM control measures as directed by the chain of command.

(2) Report the effectiveness of control measures during AARs.

(3) Follow the guidance within this regulation.

(4) Complete RM training, as required.

(5) Complete POV risk assessments as required the Army, by this regulation, or other applicable guidance.

12-6. Types of risk assessments

In addition to the three levels of RM, there are several types of risk assessments. The types are operational, daily, and POV risk assessments (Travel Risk Planning System [TRiPS]).

a. Operational risk assessment. This is a risk assessment completed using FLW Form 661 for an operation or mission usually performed at a specific site or mission. For example, a risk assessment for operation of an M16 firing range is an operational risk assessment. The specific site could be a range, a training area, a bivouac site, a unit area, a PT field, a river crossing site, or some other location. These operations are usually conducted on a regular or somewhat regular basis and usually at the same location. These are all considered risk assessments.

b. Daily risk assessment. This is a risk assessment completed using FLW Form 661 for a unit's operations/missions to typically be conducted over the course of one day. It is used to manage the hazards associated with any operation/mission of the unit that is not covered by an operational risk assessment. For example, an IET company will be conducting transportation, foot movement to and from, and training for the day. The range operations hazards will be managed using the operational risk assessment for a range.

NOTE: Both operational/mission and daily risk assessments can be combined for the entire operation/mission. This decision is at the CDR's discretion. The daily risk assessment will be reviewed and signed daily by the senior person at the site or his/her designated representative as required or as conditions change.

c. POV risk assessments (TRiPS).

(1) Individuals and first-line supervisors will use the POV risk assessment (TRiPS) if the Service member is traveling out of the local commuting area (greater than 100 miles). This risk assessment is found online, at the USACR/SCs Web site: <*https://safety.army.mil/*>. If the Service member or supervisor cannot access the CRC Web site or cannot log onto TRiPs, they can use the Individual Travel Risk Assessment Worksheet and the POV Inspection Checklist in place of TRiPs.

(2) Civilian employees should be encouraged to also complete this risk assessment, prior to driving long distances.

12-7. RM review

This is a periodic review of the operational risk assessment for an operation or mission. FLW Form 661 must be reviewed and updated periodically or as conditions change. This review and update is done to identify any changes in the hazards, risk level, or control measures associated with the operation or mission.

12-8. RM training programs

The Army and TRADOC have developed RM training courses for military and civilian personnel to complete at various stages of their careers, from basic combat training through Senior Service College and from individual civilian employees through civilian managers. All Soldiers and civilian employees must complete the basic RM course (distance learning [dL]), found at the USACR/SC Web site <*https://safety.army.mil/*>.

12-9. RM in the training development process

Ensure safety and RM training is provided to combat developers, training developers and evaluators, school instructors, and cadre.

12-10. RM for off-duty activities

a. It is very important that the RM process be applied to off-duty activities. Most fatalities occur during off-duty activities, with POV operations being the most common. Both Soldiers and civilian

employees must be trained on RM and encouraged to apply the principles of RM to off-duty activities. It is the responsibility of leaders to influence Soldiers and civilian employees to perform off-duty activities in a safe manner, using the principles of RM.

b. Organizations/units will use FLW Form 661 for off-duty operations/activities.

12-12. Other RM considerations

a. A risk assessment must be maintained at the location where the mission or activity will be performed. Leaders must ensure that personnel are familiar with the hazards, control measures, and other aspects of the risk assessments for operations or missions they will be performing.

b. The RM process will be integrated into all SOPs and the development process for all policies.

Chapter 13
JOB HAZARD ANALYSIS

13-1. Purpose

The purpose of a Job Hazard Analysis (JHA) is to make the job safer and more efficient by determining how work is done, where work is done, changes in work methods and environment and how these conditions create hazards for the worker.

13-2. General

a. All jobs require some analysis of hazards involved along with some form of documentation concerning the hazard potential. Based on the job's hazard potential, documentation will be prepared using the following guidelines:

(1) For hazardous operations or training which do not involve repetitive actions, or involve more than one person, or is too broad in scope for JHA, conduct a risk assessment IAW chapter 12 of this regulation.

(2) For jobs involving repetitive tasks and the possibility of injury exists conduct a JHA according to this regulation.

(3) For low hazard potential jobs (other than office) submit a list to MSO.

b. Identifying hazards and safe procedures are part of a supervisor's job and should be one of the first steps taken when a new job is created or an existing job or task is revised or modified. The JHA is done by the two individuals most qualified to evaluate the job; the first line supervisor and the person who actually does the job.

13-3. Risk assessment/JHA

The JHA is an abbreviated method of risk assessment. It is less complex and detailed than the risk assessment.

13-4. Responsibilities

CDRs/DIRs will—

a. Ensure that a JHA is conducted for each position (military, civilian, and non-appropriated fund; contractors are excluded) by selecting one individual within the activity who performs each specific job, analyzing the job processes, determining job hazards, and developing recommended safe procedures. Concentrate on jobs with greatest potential hazard first.

(1) Repetitive jobs such as machine operations, warehouse operations, boiler scaling operations, welding, and painting are appropriate for JHA.

(2) Jobs such as exterior electrical repair or construction are too broad to make maximum benefit of a JHA. Either break them down into individual tasks, with a separate analysis performed for each task, or do a complete risk assessment.

b. Ensure that the completed analysis is used as the safe performance standard for all personnel who do the same job within the activity.

c. Ensure that the JHA is used as a training tool for incoming personnel.

d. Ensure that the JHA is reviewed at least annually and revised as necessary. Review must be documented.

e. Ensure that a copy of the completed JHA is maintained at the work site where it can be reviewed by each worker who performs the job and an information copy is sent to the MSO.

13-5. Steps

a. Step 1. Break down the job into a logical series of steps. The supervisor and worker must be extremely careful during this phase not to make the job breakdown too detailed (unnecessarily large number of steps) or too general (basic steps omitted).

(1) Observe the task as it is performed.

(2) Record steps in order.

(3) Describe what must be done, not the details of how it is to be done. Usually three or four words are sufficient to describe each basic job step.

b. Step 2. Identify hazards (SOH) associated with each step. This is the most critical step since only identified hazards can be eliminated or reduced.

(1) Observe each step of the job, as it is performed, for hazards and potential hazards.

(2) Discuss the job with the person who performs the job.

(3) Review past accidents and incidents that occurred while the job was being performed.

(4) Some examples of hazards (not all inclusive) are—

(a) Struck by object.

(b) Contact with hazard (electric shock, hot surface, or extremely cold surface).

(c) Toxic chemicals.

(d) Toxic fumes or particles in the air requiring respiratory protection.

(e) Potential for repetitive motion injuries.

(f) Potential for falling (work surface) or being caught between objects.

c. Step 3. Develop procedures to eliminate or reduce the hazard. There must be one or more controls identified for each hazard.

(1) Some (not all inclusive) principal solutions are as follows:

(a) Change the physical conditions that create hazards.

(b) Change work procedures.

(c) Reduce the frequency of the task.

(d) Substitute non-hazardous materials, if possible.

(e) Provide personal protective equipment.

(f) Provide training and/or require certification.

(2) Make procedures as specific and as required.

(a) Recommended precautions such as “be careful’, “stay alert”, or “use caution” are too generic to be useful.

(b) A recommended precaution should clearly state what should be done and how to do it. For example, the recommendation “Make sure the wrench does not slip or cause loss of balance” would not be adequate because it is not specific enough. A more acceptable recommendation would be “Set wrench securely, and then test the grip of wrench by applying a slight pressure. Brace yourself against an immovable object prior to exerting full pressure to ensure that you do not lose your balance should the wrench slip.” This recommendation tells the worker how to prevent injury during a job step.

13-6. JHA work sheet

JHA must be documented. Example form and instructions are at appendix L. As a minimum, the work sheet must include:

a. Header information.

(1) Job title.

(2) Organization/unit.

(3) Date JHA completed/revised or date of annual review.

(4) Name of person conducting JHA.

(5) Name of person approving JHA (must be at least first line supervisor).

b. Job steps.

c. Hazards associated with job steps.

d. Recommended precautions.

e. Required/recommended PPE.

f. Required or recommended training and certification.

Chapter 14
RESPIRATORY PROTECTION PROGRAM (RPP)

14-1. General

a. This chapter provides requirements to implement an effective RPP according to the references listed in appendix A.

b. Prescribes policies for selecting, using, controlling, and maintaining respiratory protective equipment in a manner that will ensure adequate and proper protection for employees (military and civilian) working in environments containing harmful concentrations of particulates (dusts, fibers, mists, and fumes) gases or vapors.

c. Delineates responsibilities for the FLW RPP.

d. Applies to all activities using or having the need for RPP or personnel involved in the operation of the RPP.

e. This regulation does not regulate the wearing and use of tactical protective masks and equipment. These protective masks will not be used in lieu of approved respiratory protection devices (RPD).

14-2. Policy

a. OSHA has set up standards regarding permissible exposure limits (PEL) for those occupational diseases caused by breathing air contaminated with harmful dusts, fibers, mists, fumes, smokes, gases or vapors. The primary objective is to eliminate or reduce employee exposure to below the PEL. This shall be accomplished by accepted engineering control measures (for example, enclosure or confinement of the operation, general or local ventilation, or substitution of less toxic materials). When effective administrative and engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.

b. All respiratory equipment will be National Institute for Occupational Safety and Health (NIOSH) approved. No respiratory equipment is authorized for use under this plan unless the IH staff and Preventive Medicine (PM) and endorsed by MSO.

c. Respiratory Protection Devices (RPD) are designed to protect personnel from occupational diseases caused by airborne contaminants will be available, used, and maintained as required IAW this regulation and appendix M.

d. Respiratory protection will be used as a means of controlling employee exposure to airborne environmental hazards under the following circumstances:

(1) When engineering or work practice controls cannot he used to adequately control the hazard.

(2) During intermittent or non-routine operations.

(3) During interim periods while engineering controls are being designed and installed to eliminate the hazard.

(4) During emergencies.

(5) When contamination exceeds the PEL.

e. Wherever economically feasible, and if technology exists for eliminating or reducing the cause of an environmental respiratory hazard, engineering control methods will be implemented. Such methods will include, but are not limited to—

(1) Substitution of less toxic substances.

(2) Installation of local exhaust systems.

(3) Natural or mechanical ventilation.

(4) Segregation or isolation of processes or operations.

f. Respiratory protection will be furnished at no cost to the employee and will be used as a condition of employment where applicable.

g. Respirators will be selected and used based upon the extent and nature of the hazards to which the worker is exposed, the work requirements and conditions, and the characteristics and limitations of the respirator. All RPD used will carry the NIOSH approval for the use for which it is intended. RPD equipment will be used only for the intended purposes, and modifications to the equipment are not allowed.

h. Employees whose work requires the wearing of RPD will not have beards, sideburns, or other hair that will negate the effectiveness of the respiratory equipment by preventing an effective face-to-face piece seal.

i. Supervisors will enforce the requirements of this regulation and recommend disciplinary action against offenders according to applicable regulations.

j. SOPs will be written to identify respiratory protection requirements, procedures, hazards, and responsibilities.

k. Compressed air for human respiration.

(1) Compressed air for breathing purposes will meet the requirements of Grade D breathing air.

(2) Supplied-Air respiratory protection couplings and fittings will be incompatible with outlets for other gas system to prevent inadvertent servicing of airline respirators.

l. In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator cleans, stores, and maintains that respirator so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written RPP those employees whose only use of respirators is voluntary (dust masks).

m. Components of respirators will not be interchanged or mixed among different manufacturers components. Design configurations do not permit mixing of components which may actually permit the entrance of contaminants.

14-3. Responsibilities

a. Installation CDR (CG) will—

(1) Establish an installation RPP according to this chapter.

(2) Provide funding, facilities, and qualified personnel to effectively implement the requirements of this program.

(3) Appoint an Installation Respirator Program Director (IRPD).

(4) Appoint a qualified person from the installation staff to function as the Installation Respirator Specialist (IRS).

b. DIRs, Division Chiefs and CDRs will—

(1) Ensure that respiratory protection is available and utilized by all personnel entering into or working in an atmosphere which is considered hazardous to employee health. Specific examples are spray paint booths, water treatment facilities, emergency rescue personnel, pesticide or herbicide application activities, bulk fuel handling and maintenance facilities.

(2) Ensure that personnel are provided with approved respirators in accordance with TB MED 502, or appropriate DA guidance.

(3) Ensure that written SOPs are prepared including all information and guidance necessary for proper respirator selection, use, care and maintenance. SOPs will be reviewed during the annual RPP review.

(4) Ensure that the proper respirator is issued and each respirator is complete and serviceable. Respirators should be assigned to individual workers for their exclusive use only.

(5) Ensure that employees will not be assigned tasks requiring the use of respirators unless it has been determined by PM that they are physically able to perform their work while wearing the prescribed respiratory protection.

(6) Ensure that compressed air cylinders are tested and maintained in accordance with TB MED 502.

(7) Ensure that respirators are maintained in accordance with the manufacturer’s instructions.

(8) Ensure that the user is instructed and trained in the proper use of respirators and their limitations.

(9) Require respirators be stored in a clean and sanitary location. Store all respirators in plastic bags or other closed containers to prevent the respirator from being exposed to airborne contaminants during storage.

(10) Ensure that respirators for emergency use will be thoroughly inspected at least monthly and after each use.

(11) Respirators must have a good seal to be effective. Conditions such as a beard or long sideburns will prevent a good face piece-to-face seal.

(12) Ensure that employees complete training requirements. The training requirements include a proper fit test conducted by MSO or other designated trained authority. The completion of training will be documented at the work site by the employee's immediate supervisor. The work site will maintain current records of employees who require a RPP.

(13) Ensure that employees perform required maintenance on assigned respirators.

(14) Ensure all employees are medically qualified prior to any training and fit testing.

c. MSO will—

(1) Be responsible for implementing the RPP.

(2) Conduct regular inspections of work areas to insure the continued effectiveness of the RPP.

(3) Ensure prompt corrective action is taken on deficiencies which are detected.

(4) Request IH to perform surveys where personnel without respiratory protection are working in an atmosphere suspected to be hazardous to health.

(5) Designate, in coordination with the supervisory industrial hygienist, the type of respiratory protection device (RPD) to be purchased and utilized.

(6) Serve as the IRPD.

(7) Determine whether or not required RPD is unserviceable.

(8) Provide initial and periodic (annual) respirator fit testing and training to personnel.

(9) Train personnel in the proper use, limitations, care, and maintenance of respirators to include leak tests of respirator before each use.

(10) Assist in reviewing the RPP periodically and conduct on-site evaluations to ensure compliance with prescribed directives.

(11) Appoint a qualified person to function as the IRS.

(12) Assist supervisors in writing SOPs on the RPP.

(13) Approve respiratory protection SOPs before they are published.

d. Chief, PM will—

(1) Determine personnel and operations that require respiratory protection and provide technical assistance in the selection and proper use of respirators to the organizational elements that use respirator protection.

(2) Ensure the effectiveness of the RPP in coordination with the MSO.

(3) Prescribe and disseminate instructions as to the type of respiratory equipment to be used.

(4) Recommend the type of equipment to be purchased, used, and assist in the establishment of methods and procedures by which the respiratory protection equipment will be ordered, maintained, and replaced.

(5) Provide direction to the IRPD to plan, program, and annually evaluate the installation RPP.

(6) Provide quarterly quality assurance testing of compressed air used for human respiration.

e. The Occupational Health (OH) Section of Preventive Medicine (PM) will—

(1) Determine if workers assigned to tasks requiring the use of respirators are physically and physiologically able to perform work while wearing prescribed respiratory protection. The medical status of the user will be reviewed periodically. Frequency will be at the discretion of PMS based on the type of RPD used, age of the individual, and the results of appropriate medical examinations.

(2) Notify supervisors as to whether each respective employee is capable of wearing RPD and performing work required, coordinate with CPAC where necessary.

f. Fire Prevention and Protection Division, DES, will—

(1) Maintain all self-contained breathing apparatus (SCBA) used at FLW with exception of emergency escape respirators placed at designated stations.

(2) Be available on an “on call” basis for any emergency situation where a SCBA would be required to enter a contaminated atmosphere.

(3) Refill all types of SCBA equipment used by government agencies on FLW.

g. CPAC, will—

(1) Assist supervisors in processing disciplinary action against employees for failure to use respiratory protection where required.

(2) Assist supervisors in relocating and retiring those employees who have been determined by the PM as unable to perform their required work while wearing RPD.

h. The Supply Division, Directorate of Logistics (DOL), will—

(1) Ensure that requests for respiratory masks, filters, and replacement parts are ordered through the installation supply activities.

(2) Issue respirators and accessories only after personnel are cleared by qualified personnel.

i. Supervisors will—

(1) Ensure that proper respiratory protection devices are used by employees where required.

(2) Ensure that employees adhere to the instructions relative to the proper use, care, and maintenance of the RPD.

(3) Enforce the provisions of this regulation.

(4) Ensure that the respirator is stored in a clean and sanitary location within the work center, to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. (Respiratory protective equipment will not be stored in such places as tool boxes unless they are in carrying cases or cartons.)

(5) Ensure that conditions do not exist which will prevent the RPD from providing a good face piece-to-face seal. The absence of one or both dentures can seriously affect the fit of a face piece.

(6) Ensure that contact lenses will not be worn.

(7) Ensure that corrective spectacles (goggles) are worn so as not to affect the fit of the face piece. Corrective lenses and face pieces will be fitted by personnel at PM.

(8) Inform employees of the physical requirements (lifting, wearing of respirator) when working in contaminated areas and include requirements in individual job descriptions.

j. Employees will—

(1) Be ultimately responsible for their own respirator.

(2) Ensure that their respirator has no holes, cracks, or leaks before each use IAW manufacture's specifications and appendix M.

(3) Perform negative and positive prescribed tests before each use to ensure proper face seal.

(4) Notify immediate supervisor if the respirator is defective.

(5) Adhere to instructions governing the proper cleaning of the respirator IAW manufacturer's specifications (appendix M).

(6) Store the respirator in a clean, sanitary location when not in use. See local SOP for specific guidelines.

(7) Not have beards, sideburns, or other facial hair that negates the effectiveness of the respiratory equipment.

Chapter 15
INSTALLATION TOXIC CHEMICAL SAFETY PROGRAM

15-1. General

This chapter—

a. Prescribes the policies and procedures for complying with applicable standards and health regulations for training with chemicals.

b. Prescribes the installation policy, scope, and responsibility for the Toxic Chemical Agent Training (TCAT) Safety Program and applies to all personnel (military, civilian, contractor, and visitors) associated with CDTF. This chapter will not be interpreted to conflict with higher authority regulations or directives, but will serve as a supplement. This chapter supplements DA Pam 385-61, TRADOC Reg 385-2, AR 50-6, Chemical Surety and subsequent guidance.

15-2. Policy

The TCAT Safety Program is designed to—

a. Ensure that safety practices and standards are incorporated into local SOPs.

b. Ensure that operations are in compliance with the DA, TRADOC, and OSHA 60 FLW Reg 385-10 requirements to the maximum extent possible.

15-3. Responsibilities

a. MSCoE CG is—

(1) Responsible for all TCAT-related operations conducted on FLW. All TCAT-related responsibilities are further entrusted to the CMDT, USACBRNS. Surety operations and requirements are chartered to the CDR, 3d CM BDE.

(2) Responsible for ensuring that a full-time chemical agent safety specialist is on staff at both the CDTF and the MSCoE Surety Office in order to ensure effective TCAT Safety Program management.

b. Each DIR through the lowest echelon of supervision is responsible for conducting safe and healthful operations within their area of responsibility.

c. MSCoE Surety Office safety specialist will conduct safety inspections/staff assistance visits of the CDTF.

d. The CDTF DIR will—

(1) Ensure all toxic chemical agent operations comply with the provisions of AR 385-10, DA Pam 385-61, TRADOC Reg. 385-2, FLW Reg 385-6, and DA Implementation Guidance Policy for Revised Airborne Exposure Limits for GB, GA, GD, GF, VX, H, HD, and HT, dated 18 December 2013.

(2) Appoint a CDTF chemical agent safety officer

(3) Suspend any CDTF operation which has been deemed unsafe or that does not comply with governing toxic chemical safety regulations or procedures

f. CDTF chemical agent safety officer will manage CDTF safety program, ensuring that it is in compliance with all applicable standards and regulations.

15-4. Agent information

a. Hazards.

(1) GB is primarily a vapor inhalation hazard although it may be absorbed through the eyes or skin. It is highly toxic, quick acting, and non-persistent.

(2) VX is a contact hazard which is readily absorbed through the skin although it may be contacted as a mist or vapor. It is slow to evaporate and is persistent for several days.

b. Nerve agent symptoms.

(1) Indications of exposure may be localized sweating and muscular twitching.

(2) Aerosol or vapor exposure may produce pinpointing of the eye pupils, runny nose, and tightness of the chest.

(3) Later symptoms (indicating severe exposure to either liquid or vapor) are nausea, diarrhea, weakness, coma, cessation of breathing, and death.

c. Exposure Limits. Personnel exposure, source emissions, and exposures to non-related personnel will be managed IAW DA Pam 385-61 (for medical surveillance and reporting), and DOD 6055.9-STD. Exposure to other chemicals will be controlled IAW the latest published guidelines.

15-5. Agent monitoring requirements

a. Various detection methods and equipment are available and will be utilized as required by DA Pam 385-61.

b. The CDTF will maintain an air-monitoring plan IAW DA Pam 385-61.

15-6. Personal protective equipment (PPE)

a. Levels of protective clothing and determination of the level of protection required for various conditions will be IAW DA Pam 385-61, chapter 12.

b. Chemical agent SOPs will specify the level of protection required for each chemical agent operation.

c. Laundering, inspection, testing, and issuing of protective clothing and equipment will be IAW DA Pam 385-61, appropriate TMs, and manufacturer's maintenance guidance where TMs are not published.

d. For CDTF operations, all North Atlantic Treaty Organization (NATO)/military-approved chemical protective equipment may be used in training. Approval must be obtained from the ODASF if the use exceeds type classification as outlined IAW DA Pam 385-61 paragraphs 1-7 and 4.

15-7. Decontamination and disposal

a. Procedures for decontamination of personnel, equipment, and facilities will be specified in chemical agent SOPs for each chemical agent operation. Procedures will be IAW DA Pam 385-61.

b. Disposal procedures will comply with DA Pam 385-61, all federal, state, and local environmental laws.

15-8. Safety criteria for agent activities

a. All toxic chemical agent procedures and operations will have detailed local SOPs IAW AR 385-10 and DA Pam 385-61.

b. A risk management work sheet will be prepared IAW DA Pam 385-30 and chapter 11 of this regulation.

c. Preoperational (PREOP) surveys are required on all new operations where site plans/safety submissions are required. PREOP surveys conducted by CDTF personnel will be approved by the MSCoE Surety Officer.

d. The CDTF will maintain an approved site safety submission plan (SSSP) IAW DA Pam 385-65.

e. Personal protective practices are as prescribed in DA Pam 385-61 and DA Pam 40-8.

f. A minimum of two chemically trained paramedics will be on site at the CDTF to provide medical response in support of all entries into the toxic training area of the CDTF.

g. All personnel who have been in operations involving nerve agents will remain at the facility for at least 30 minutes after leaving the agent area (for example, laboratory and CDTF training bays) and will be checked for miosis or other symptoms of agent exposure. Any suspected exposure will be reported IAW the MSCoE Surety SOP.

15-9. Laboratory safety

a. Laboratory safety procedures will be reflected in chemical agent SOPs and will comply with the requirements of DA Pam 385-61 and OSHA 1910.1450.

b. A scheduled maintenance program will be established to assure the performance of the ventilation systems. Daily checks of hood face velocity will be conducted as a part of the PREOP procedures. Ventilation surveys will be performed by IH on a quarterly basis.

15-10. Storage

SOPs implementing the requirements for storage of chemical agents will be established and approved IAW AR 50-6, DA Pam 385-61, and TRADOC Reg 385-2.

15-11. Shipping

Off-site transportation of GB or VX manufactured at the CDTF is not authorized.

15-12. Hazard communication/Global Harmonization System (HAZCOM/GHS)

Supervisors will ensure that employees are trained in material safety data sheet/safety data sheet (MSDS/SDS) and hazard communication/Global Harmonization System (HAZCOM/GHS) and ensure that MSDSs/SDSs are readily available. Chapter 21 of this regulation, Hazard Communication/ Global Harmonization System (HAZCOM/GHS) Program, will serve as the implementing HAZCOM/GHS document for the CDTF. The CDTF DIR will appoint on orders both a HAZCOM/GHS officer and a chemical hygiene officer for laboratory operations.

15-13. Respiratory protection program (RPP)

This program prescribes policies, responsibilities, and procedures for implementation and management of the CDTF RPP. This program applies only to operations involving toxic chemical agents. It is not designed for industrial or construction operations. For those applications, chapter 14 of this regulation applies.

a. Responsibilities:

(1) The CDTF Director will—

(a) Establish a RPP which is applicable to CDTF operations and which is consistent with established regulatory and installation program procedures. The RPP must include a written SOP which must be approved by the IRPD and the IRS.

(b) Appoint a CDTF RPP officer for implementing approved RPP program procedures.

(c) Enforce RPP requirements for execution of CDTF toxic chemical agent operations.

(2) CDTF RPP officer will—

(a) Oversee implementation and enforcement of all CDTF RPP program requirements and procedures.

(b) Conduct necessary coordination with the IRPD and the IRS for implementation and review of established RPP procedures.

(c) Ensure all CDTF personnel understand and comply with RPP procedures.

(d) Conduct periodic and annual review of RPP procedures to ensure compliance with regulatory changes. Revision of procedures will be properly coordinated and staffed with the Installation Safety/OH Manager, competent medical authority (CMA), IRPD, and the IRS.

(e) Coordinate the required CDTF respiratory training which will be conducted at least annually and will be IAW AR 11-34 requirements.

(f) Ensure that procedures for qualitative and quantitative fit testing are properly being conducted.

b. Policies.

(1) Condition of assignment or employment at the CDTF. As prescribed by AR 50-6, the wear and use of chemical protective clothing and a respiratory protective mask are conditions of assignment and employment for selected positions at the CDTF.

(2) Medical evaluation. Selected CDTF personnel and students must undergo medical evaluations as prescribed in AR 40-5, TB MED 502/DLAM 1000.2, TB MED 509.

(3) Mask fit testing.

(a) All CDTF personnel (military, civilian, and contractor) and students who are issued NATO/military-approved protective masks will be quantitatively fit tested IAW the six-step fit testing process as described below:

- Regular breathing.
- Deep breathing.
- Moving head side to side.
- Moving head up and down.
- Grimacing.
- Jogging in place.

(b) All protective masks issued for wear into the toxic training area will be quantitatively fit tested with the M41 PATS and leak tested using isoamyl acetate (banana oil) or stannic chloride IAW DA Pam 40-8 and DA Pam 385-61, chapter 12.

(4) CMCL environments. Air purifying respirators will not be worn in an agent environment where nerve agent concentrations (for both GB and VX) exceed CMCL agent concentration levels.

(5) Facial hair. There must be absolutely no interference of any facial hair growth with the sealing surface of the protective mask; this includes beards and sideburns. Personnel with beards will be denied access to toxic agent training and operations. Anyone who needs to grow a beard to affect a cure as determined by their attending physician or dermatologist will be excused from toxic agent training or operations for the extent of the medical profile.

(6) Hair. Students with long hair will remove all hairpins, combs, and hair knots, buns, weaves, or braids that interfere with the seal of their protective mask. The only hairpieces or hair extensions that may be worn into the hot area are those which are permanently attached, made from natural hair, and not attached using glue or another substance which may absorb agent at a greater rate than natural hair. Hairstyles that prevent thorough washing of the scalp and hair (for example, tight braids) may not be worn into the hot area.

(7) Glasses/contact lenses. Neither glasses (other than approved fitted optical inserts) nor contact lenses will be worn with the protective mask.

Chapter 16
LOCKOUT/TAGOUT OF HAZARDOUS ENERGY SOURCES

16-1. General

This chapter establishes responsibilities and procedures for protecting personnel in, on, or around machines or equipment during repair or maintenance operations from injury due to unexpected energization, start-up, or release of stored energy from the equipment or process.

16-2. Policy

This is a mandatory program and all MSCoE personnel must comply will all elements of the lockout/tagout of hazardous energy sources as specified herein. Appendix N gives a list of hazardous energy sources.

16-3. Responsibilities

a. CDR, MSCoE, will ensure that a lockout/tagout program is established and implemented for the protection of personnel for accidental energization or start-up of equipment during maintenance/ repair.

b. MSO will—

(1) Monitor the effectiveness of this program during scheduled inspections and spot checks of work sites.

(2) Conduct train-the-trainer classes for supervisors, who will be responsible for training their employees quarterly.

c. CDRs and DIRs of staff offices/departments will—

(1) Ensure that employees required to use lockout/tagout devices are trained in the purpose and use of the lockout/tagout procedures.

(2) Provide the necessary equipment to accomplish the safe lockout/tagout of energy sources during maintenance or repair of equipment. These devices shall not be used for any purpose other than to lockout or tagout energy sources. Tagout device attachment means (for example, nylon cable ties) shall be non-reusable and must withstand 50 pounds of tension (static pull).

d. Supervisors will—

(1) Ensure that all employees required to work on hazardous energy source equipment have been trained in all aspects of lockout/tagout procedures.

(2) Conduct periodic inspections to ensure that all elements of this regulation are being followed by employees.

(3) Be responsible for removing lockout/tagout devices in the event the employee who installed the devices is unable to remove them.

(4) Ensure that all lockout/tagout devices or signs are checked after any prolonged absence by the worker such as overnight. This ensures that they are still in place and functioning as installed. Procedures are as follows:

(a) A lockout/tagout logbook will be procured for each shop.

(b) Logbook shall have both employee and supervisor signature for each lockout/tagout.

(c) Each lockout/tagout device shall have a time period with updated signatures at expiration of lockout/tagout.

(5) Ensure all lockout/tagout devices are logged with the supervisor of the responsible shop, as installed and removed, to ensure that devices are not left in position where they are no longer required.

e. Employees will—

(1) Comply with all procedures herein to prevent accidental startup of equipment/systems while performing maintenance or repair.

(2) Be knowledgeable of the equipment being serviced, the type of energy and its hazards, and how to isolate the equipment from all energy sources.

16-4. Procedures

a. All maintenance employees are required to locate and identify all isolating devices to be locked or tagged out because more than one energy source maybe involved in the lockout/tagout process.

b. Individual(s) performing maintenance will notify all affected employees that a lockout is required and the reason for the lockout.

c. If the equipment is operating, it must be shut down by the normal stopping procedures (such as depress stop button or open toggle switch).

d. Operate the switch, valve, and other energy isolating devices so that the energy source(s) (electrical, mechanical, or hydraulic) are disconnected or isolated from the equipment. Stored energy (such as that in capacitors; springs; elevated machine members; rotating flywheels; hydraulic systems; and air, gas, steam or water pressure) must also be dissipated or restrained by methods such as grounding, repositioning, blocking, or bleeding.

e. In some electrical component or systems, it is required to diagnose the system during periods of operation. An example is an electrician locking-out electrical breakers before repairing an unserviceable receptacle.

f. Lockout/tagout the energy isolating devices.

(1) After ensuring that no personnel are exposed, and as a check, operate the control to ensure the energy source is inoperable. Return operating controls to the off position after the test.

(2) The equipment is now locked out.

g. All employees shall ensure that all tools have been removed and guards reinstalled as a prelude to restoring equipment that has been locked or tagged out, restoring equipment to service requires ensuring no one is exposed in the equipment area, removing energy isolating devices and restoring energy to the equipment.

h. Removal of lockout/tagout devices by persons other than the employee(s) who applied them, not authorized unless circumstances are such that the employee(s) who applied them is/are unable to remove them (appendix N).

i. Procedure involving more than one person:

(1) Each employee performing maintenance on the same equipment/machine as other employees shall place his or her personal lockout or tagout on the energy isolating device(s).

(2) As each employee no longer needs to maintain his or her lockout protection, that person will remove his/her lock from the energy isolating device(s).

j. Shift or personnel changes. If work on equipment is required by the next shift, the employee(s) shall affix their tag to the equipment identifying them as the responsible party for locking or tagging out the energy sources to the equipment. Local SOP's will dictate proper procedures for shift-type work.

Chapter 17
CONFINED SPACES

17-1. General

a. This chapter ensures that personnel who enter confined spaces are protected from the hazards that are dangerous to life or health.

b. Ensure confined space entries are identified and an effective personnel rescue/removal procedure is developed and tested.

c. This is a mandatory program for all U.S. military personnel, civilian employees, and civilian contractors hired to perform a specific task or series of tasks involving entry into confined space.

17-2. Operating requirements

a. MSO, with the assistance of PM and DPW shall locate, test, identify, and establish a numbering system for all permit required confined spaces (PRCS) located on FLW with the exception of mobile trailer mounted tanks paragraph 17-7.

b. A confined space entry permit (appendix O) will be used for entry into any confined space on FLW. Any entry into a permit required confined space will require contact of the FLW Fire Department (596-0883) prior to entry and at the time of exiting the confined space.

NOTE: See the glossary for definition of "Permit-Required Confined Space".

c. Occupancy of a permit required confined space by more than one entrant at a time may be permitted if there is an attendant for each entrant and adequate rescue/removal resources are on the scene.

d. Each entrant shall be instructed by the supervisor at the site that he/she shall immediately evacuate the space upon orders from the attendant, upon activation of an alarm, or if the entrant perceives he/she is in danger.

e. Emergency alarms shall be thoroughly discussed among the parties at the site and evacuation signals/orders completely understood by the entrant, attendant, and supervisor. These tasks should be accomplished just prior to entering the space.

f. Attendant must maintain close effective contact with the entrant at all times while an entrant is in the space. The supervisor, entrant, and attendant must agree on the type or method of communication to be used, verbal when noise does not limit or interfere, or radio. However, radio or other forms of electronic communications should not be used in an explosive atmosphere unless approved for use in explosive atmospheres or the atmosphere has been inert or modified so explosive gas levels are less than 10% of lower explosive level (LEL).

g. Inability of an entrant to exit or escape a confined space under his/her own power shall be cause for the rescue team to be summoned. This shall be accomplished by persons other than the attendant who shall remain at the confined space until relieved by the rescue team chief. Any time the rescue team is summoned, medical authorities will be notified as well.

NOTE: Medical personnel not trained to enter confined spaces will not enter the confined space to perform medical treatment if the entrant has become incapacitated but will wait until the rescue team has removed the entrant from the confined space.

h. The supervisor shall retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program required by of this section. Any problems encountered during an entry operation shall be noted on the permit so that appropriate revisions to the permit space program can be made.

i. Immediately prior to entry into an PRCS; the entrant, attendant, supervisor, and rescue personnel (if on the scene) will examine the permit to ensure that they are all knowledgeable of the conditions expected, the method of communication, and all signals to be used during entry.

j. Entry into a permit required or IDLH confined spaces will always require the use of a suitable, approved retrieving device, such as a full body harness, lifeline, and lifting device operable by the attendant. Under no circumstances will an attendant enter a confined space for rescue purposes.

k. Occupancy of an IDLH confined space requires approval of the MSO Confined Space Manager (596-0116) to determine and assess the best means available to accomplish the task prior to entry. Notification of the FLW Fire Department (596-0883) is required before entry takes place and at the time of exit.

l. The area immediately surrounding an IDLH space shall be cordoned off and protected by suitable barriers and shall be posted with warning signs prohibiting entry into the area.

m. Other than the attendant(s), supervisor, and rescue personnel; no other person(s) will be permitted inside the cordoned-off area while entry is underway.

17-3. Testing of confined space

Every confined space located on FLW, shall be tested prior to the first entry of the day/any time the entrant requests testing. Testing will be conducted by the supervisor at the site and will be annotated on the FLW Confined Space Permit.

a. Testing of IDLH confined space will be on a continuous basis if an oxygen deficiency or explosive or toxic atmosphere was detected during the initial test. Any change in test values discovered during subsequent testing will be recorded on the permit.

b. Testing of confined spaces will be conducted at least every hour while an entrant is in the space. Testing of permit required confined spaces will be conducted at least every 15 minutes while an entrant is in the space.

c. All tests, including tests for oxygen levels, explosive or combustible gases, and/or toxic/ hazardous substances, will be taken within 1 foot of the bottom of the space, midway to the top of the space, and within 1 foot of the top of the space. All test results will be recorded on the FLW Confined Space Permit (appendix O).

d. Atmospheric tests will include, but not be limited to—

(1) Oxygen level between 19.5% and 22%.

(2) Methane gas below 10% of LEL.

(3) Hydrogen sulfide below 10 parts per million (PPM) and 10% of LEL.

(4) Other explosive/flammable gases below 10% of LEL.

e. Atmospheric test results which exceed established limits, or in the case of oxygen concentrations are below limits, shall be a sufficient reason to purge/ventilate the confined space until repeat test results fall within limits. Tests will be conducted IAW this chapter to ensure that atmospheric levels remain safe.

f. When atmospheric tests reveal either a contaminant in the atmosphere or an oxygen deficiency or enrichment, the cause(s) must be determined and corrected if at all possible. If the condition cannot be corrected by purging/ventilation and entry is determined to be necessary despite the hazards, intensive protective measures must be employed.

(1) An oxygen deficient atmosphere (less than 19.5%) as measured by a properly calibrated and operated instrument will require the use of either a SCBA or an airline supplied respirator with escape capabilities supplied by a known source of Grade D breathing air.

(2) An oxygen enriched atmosphere, 22% or more, is rare and would only occur if pure oxygen was vented into the space. The addition of normal air into the space, by an approved method, will bring the concentration of oxygen down to an acceptable level.

Warning: During the period in which the concentration of oxygen is 22% or greater, extreme care must be exercised to prevent fire since any organic materials including wood and textiles will ignite and burn violently.

(3) Methane gas concentrations greater than 10% of LEL pose multiple threats. Methane gas in concentrations between 5% and 15% of atmosphere are extremely explosive as well as being an oxygen displacing asphyxiates. Ventilation using the proper procedure, paragraph 17-7b (1) and (2), will reduce the concentration of methane to a level below 10% of LEL and at the same time bring the oxygen level up to at least 19.5%. Methane gas is a product of decaying organic material and may be found in landfills, sewage lines, and treatment plants. Methane gas also occurs in natural gas and is lighter than air so it tends to collect at or near the top of a confined space.

NOTE: If concentrations of methane gas cannot be lowered and kept below the established limit, and entry into the space is deemed necessary, all tools, parts, and equipment introduced into the space must be non-sparking or static electrical charge producing.

(4) Hydrogen sulfide is the chemical compound with the formula H_2S. It is a colorless, very poisonous, and flammable gas with the characteristic foul odor of rotten eggs at concentrations up to 100 PPM. It often results from the bacterial breakdown of organic matter in the absence of oxygen, such as in swamps, sewers, landfills, sewage plants, and in refineries/petroleum product lines and storage tanks; this process is commonly known as anaerobic (not needing oxygen) digestion. It also occurs in volcanic gases, natural gas, and some well waters. Purging/ventilation using the proper procedure, paragraph 17-7, will reduce the concentration of hydrogen sulfide to less than 10% of LEL and less than the OSHA limit value of 10 PPM.

Warning: If the concentration cannot be reduced as stated and entry is necessary despite the hazard, a SCBA or an airline supplied respirator with escape capabilities and a source of Grade D breathing air must be worn. Tools and equipment introduced into the confined space must be non-sparking and must be explosion proof. Hydrogen sulfide is heavier than air and tends to collect at the bottom of the space.

(5) Nitrogen dioxide is a product of combustion process exhaust and high-temperature welding. Nitrogen dioxide is noncombustible and is heavier than air so it collects in the low areas of the space. In concentrations above 5 ppm, nitrogen dioxide dissolves moisture in the lungs and forms nitrous and nitric acids. While being only slightly irritating to the respiratory system, dangerous concentrations can be encountered without immediate discomfort. However 6 to 24 hours later, the throat, bronchi, and lungs suffer edema and congestion which leads to an accumulation of fluid in the lungs and suffocation. Proper purging/ventilation of a space in which nitrogen dioxide is found in concentrations of 5 ppm or greater, will reduce the level to a safe range.

(6) Carbon monoxide is a product of internal combustion engines and is lighter than air so it tends to collect in the upper part of a confined space. Concentrations between 12% to 74% carbon monoxide is flammable. Carbon monoxide combines three times better with blood than oxygen does and remains in the blood long after exposure has stopped. Carbon monoxide is the leading cause of deaths in fires. Concentrations above 12.5 ppm ventilation IAW paragraph 17-7 will reduce the concentration to an acceptable level.

17-4. Purging/ventilation

a. When a confined space is determined to contain a hazardous concentration of explosive or toxic gas, the supervisor must decide what form of purging/ventilation will be used.

b. Any one of three forms of purging/ventilation, or some combination, may be used, depending upon the type of gas and its weight.

(1) The suction method uses a pump which draws the fumes/gases out and is probably the most effective. All equipment used including the electrically driven pump, suction hoses, switches, and extension cord must be explosion proof. The discharged fumes/gases will be concentrated at the outlet so a danger zone downwind of the outlet must be established, posted, and cordoned off for the dispersal of the fumes/gases.

(2) The forced air method of purging/ventilating consists of an air supply under pressure, which is produced at the scene by a pump and a hose or duct inserted into the confined space. The forced air method is best suited for fumes/gases which are lighter than air. Air under pressure is introduced at the bottom of the space and forces the fumes/gases up and out of the space. The discharged fumes/gases will not be as concentrated as those produced by the suction method. However, the fumes/gases in the

space may be explosive so motors, switches, power cords, and the hose or duct used must be explosion proof and non-spark producing.

(3) Steaming is the least desirable method of purging/ventilation of a confined space. The steam must be at least 170 degrees and should be introduced into the confined space near the bottom. The steam line must be bonded to the wall of the space to prevent the buildup of static electricity. The major drawbacks to using the steam method is an adequate supply of steam and disposal of the condensation formed when the steam cools.

(4) Both the suction and air pressure method are forms of dilution ventilation in which the fumes/gases are diluted until level is reached which is not hazardous to the worker.

17-5. Training

a. Individuals who authorize entry into a confined space must have knowledge of the contents and hazards associated with entry. Knowledge may be acquired through extensive experience or formal training from a recognized source.

b. Every worker who performs the duties of an entrant, attendant, rescuer or a supporting task, must fully understand their duties. Training must include, as a minimum, the following:

(1) Hazard Recognition. The authorizing supervisor must ensure personnel are trained to recognize the hazards they may encounter in a confined space whether physical, mechanical, or other hazards.

(2) Personnel must be trained to recognize the symptoms of exposure/overexposure and how to react accordingly.

(3) Personnel must be trained to operate test equipment properly and how to interpret readings obtained.

(4) Personnel must be trained to operate respiratory protective equipment including the SCBA, airline respirator, and any other breathing device used during entry into confined space.

(5) Personnel must be trained to operate systems used to supply breathing air.

(6) Personnel must be trained in the use of emergency extraction equipment.

(7) Personnel must be trained to operate communications equipment used at the site, and the limitations of the equipment.

(8) Personnel must be trained in the operation of powered equipment used at the site.

(9) Personnel must be trained in the need for, use of and availability of PPE, including the proper wear and maintenance of the PPE.

(10) Personnel must be trained to react to emergency situations and to evacuate the confined space without delay when told to do so, when—

(a) The attendant orders an evacuation.

(b) A monitor alarm sounds.

(c) The entrant experiences symptoms of overexposure, such as headache, dizziness, blurred vision, shortness of breath, discomfort when breathing, or other physical or mental reaction.

(d) Loss of communications with the attendant.

(e) Loss of illumination, if being used.

(11) Required training will be conducted by an individual who has knowledge and experience in confined space entry, the characteristics of the hazards common to confined space entry, and who is able to communicate effectively with employees.

17-6. Emergency response/rescue

a. The FLW Fire Department (596-0883) is the designated emergency responder/rescuer force in all instances where emergency rescue is necessary and is beyond the capabilities of the attendant at the scene.

b. When entering a confined space in which an oxygen-deficient or oxygen-enriched atmosphere exists, or a toxic or flammable/explosive atmosphere exists, and the hazards cannot be negated prior to entry; the designated emergency responder will be notified by the on-site supervisor, before entry takes place. Notification may be made by telephone, radio, or in person. The emergency response team will be furnished:

(1) The identifying number (if available) and location of the confined space.

(2) The reason for entry into the confined space.

(3) The number of entrants and attendants.

(4) The hazard(s) known or expected to be encountered in the confined space.

(5) The type of rescue equipment already at the site.

(6) Estimated time of actual entry and duration of entry. Upon completion of work task, notification of exit will be made to the designated emergency responder.

NOTE: Entry will not be accomplished until the designated emergency responder have been notified if an IDLH confined space cannot be made nonhazardous.

17-7. Entry into truck/trailer-mounted confined spaces

a. Truck/trailer mounted tanks, which are entered through a hatch or removable plate, are considered to be Type “M” (Mobile) confined space for the purpose of entry.

b. Entry into a mobile or Type “M” confined space shall require the same basic action/precautions as entry into any other confined space.

c. Additional operating requirements for Type “M” confined space:

(1) Under “location of confined space” a description of the tank truck or trailer will be entered, for example, Tank Trailer, Type MXXX, Serial Number XXX, and the location of the unit while entry is performed, for example, Bldg XXX, XXX Transportation Co.

(2) The remainder of the permit, completed by the entrants first-level supervisor, will be completed the same as for any other confined space entry.

(3) The entry permit will be completed and displayed on or near the tank. Upon completion of the work task, or expiration of the permit, the permit shall be furnished to the first-line supervisor for filing for a period not longer than 1 year.

17-8. Welding in Confined Spaces

This section sets forth-additional requirements for welding operations performed in confined spaces.

NOTE: When there is a welding requirement in a confined space, a Hot Work Permit will be required and issued by the FLW Fire Department (596-0883).

a. Torch valves. In order to eliminate the possibility of gas escaping through leaks or improperly closed valves, when gas welding or cutting, the torch valves shall be closed and the gas supply to the torch positively shut off at some point outside the confined area whenever the torch is not to be used for a substantial period of time, such as during lunch hour or overnight. Where practicable, the torch and hose shall also be removed from the confined space.

b. Welding cable. Welders shall place welding cables and other equipment so that it is clear of passageways, ladders, egress routes, and stairways.

c. Securing cylinders and machinery. When welding or cutting is being performed in any confined spaces, the gas cylinders and welding machines shall be left on the outside. Before operations are started, heavy portable equipment mounted on wheels shall be securely blocked to prevent accidental movement.

d. Lifelines. Where a welder must enter a confined space through a manhole or other small opening, means shall be provided for quickly removing him in case of emergency. When lifelines are used for this purpose, the lifelines shall be attached to the welder's body so that his body cannot be jammed in a small-exit opening. An attendant with a pre-planned rescue procedure shall be stationed outside to observe the welder at all times and be capable of putting rescue operations into effect.

e. Ventilation in confined spaces. All welding and cutting operations carried on in confined spaces shall be adequately ventilated to prevent the accumulation of toxic materials or possible oxygen deficiency. This applies not only to the welder but also to helpers and other personnel in the immediate vicinity. All air replacing shall be clean and breathable. Ventilation will be at the minimum rate of 2,000 cubic feet (57 cubic meters) per minute per welder, except where local exhaust hoods, or airline respirators approved by the U.S. Bureau of Mines for such purposes are provided. Oxygen shall never be used for ventilation.

f. Local exhaust hoods. Mechanical exhaust ventilation will be by means of a freely movable hood of air-flow sufficient to maintain a velocity in the direction of the hood of 100 linear feet (30 m) per minute in the zone of welding when the hood is at its most remote distance from the point of welding.

g. Airline respirators. In addition to ventilation, airline respirators approved by MSHA and NIOSH, shall be used by all personnel working in the confined space when hot work is performed; however, if it is determined that the general and local ventilation is adequate to control the hazards, then the need for an airline respirator will not be necessary. The determination of whether or not an airline respirator is needed will be coordinated with the FLW Preventive Medicine/IH personnel, USAMEDDAC.

h. Degreasing. Degreasing and other cleaning operations involving chlorinated hydrocarbons shall be so located that no vapors from these operations will reach or be drawn into the atmosphere

surrounding any welding operation. In addition, trichloroethylene and perchloroethylene should be kept out of atmospheres penetrated by the ultraviolet radiation of gas-shielded welding operations. In addition to tank cleaning for control of atmosphere hazards, coating and surface materials must be removed 4 inches or more from any surface area where welding or other torch work will be done.

NOTE: Continuous air monitoring will be performed by the attendant/monitor during the hot work operation. When atmospheric hazards exceed acceptable levels the entrants will exit until the atmosphere becomes acceptable.

Chapter 18
VISION, HEARING, AND FOOT PROTECTION PROGRAMS

18-1. Vision program

a. This section establishes the FLW Occupational Vision Protection Program. This document prescribes policy guidance necessary to ensure that the minimal acceptable requirements of the DA and the OSHA are being applied.

(1) The supervisor shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

(2) The supervisor shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (for example, clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

(3) The employer shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

b. Responsibilities.

(1) CDRs/DIRs will—

(a) Establish a vision protection program when eye hazards have been identified during a safety and health inspection.

(b) Ensure that eye hazards and hazardous areas are properly identified with placards or signs.

(c) Incorporate within unit/directorate written SOP governing the preservation of eyesight.

(d) Cause regular inspections to determine the continued effectiveness of the program.

(e) Ensure that training points out the benefits of the program and stimulate cooperation of all concerned.

(f) Ensure that personnel under their command are provided both environmental and personal protective equipment necessary for eye safety.

(g) Prevent access to eye hazard areas to anyone not equipped with eye protection.

(h) Refer personnel to be assigned duties in an eye hazardous area or occupation to the OH Nurse (located at GLWACH) for vision screening. Record of referrals for each identified individual shall be maintained separate from medical records for administrative control.

(2) The MSO will—

(a) Assist PM/IH in identifying specific areas of a unit or organization that require eye protection.

(b) Inspect for the proper identification and protection from eye hazards during all inspections and surveys.

(c) Provide assistance to units and organization on determining the proper eye protection for a particular hazard.

(3) The IH Office, GLWACH, will—

(a) Identify in writing the specific areas of a unit or organization that require eye protection.

(b) Inspect for the proper identification and protection from eye hazards during all inspections and surveys.

(c) Provide assistance to units and organization on determining the proper eye protection for a particular hazard.

(4) Unit and organization ADSOs/CDSO'/NCOs and supervisors will—

(a) Coordinate with the IH, GLWACH, or MSO for identification of areas, operations, and occupations where eye protection is required and for assistance and advice in the selection of proper eye protection devices to protect employee vision.

(b) Coordinate with the unit CDR or organization DIR to ensure that a vision protection program is in conformance with applicable regulations and directives.

(c) Conduct random inspections and surveys to determine the continued effectiveness and enforcement of the vision protection program.

(5) All military and civilian personnel assigned to work in eye hazardous areas or occupations will—

(a) Submit to vision screening and examination for evaluating whether the individual meets the visual standards of the work.

(b) Keep protective eye wear clean, properly fitted, and in serviceable condition.

(c) Adhere to SOPs.

(d) Warn others and supervisors of known hazards or failure of personnel to observe safety rules.

c. Hazardous areas. Any material that could cause damage upon entering the eyes should be considered when surveying for the vision protection program. Some processes are automatically included such as the following:

(1) Laser devices, for example, night vision devices, range finders.

(2) Chemical substance handling.

(3) Sandblasting, grinding, power mowers, weed eaters.

(4) Indoor racket sports.

(5) Banding operations, brake repair/installation.

(6) Arc welding.

(7) Striking with a hammer.

18-2. Hearing conservation program

This section establishes the FLW Hearing Conservation Program. IAW TRADOC Reg 350-6, AR 40-5, DA Pam 40-501, FLW Reg 40-7, FLW Reg 690-24, and 29 CFR 1910.95(c) prescribe policy guidance necessary to ensure that the minimal acceptable requirements of DA and OSHA are being applied.

18-3. Foot protection program

a. This section establishes the FLW's Occupational Foot Protection Program. This document prescribes policy guidance necessary to ensure that the minimal acceptable requirements of DA and OSHA are being applied.

b. Responsibilities.

(1) CDRs/DIRs will—

(a) Establish a foot protection program when foot hazards have been identified during a safety and health inspection.

(b) Ensure foot hazards and hazardous areas are properly identified with placards or signs.

(c) Approve written SOPs governing the prevention of foot injuries.

(d) Conduct regular inspections to determine the continued effectiveness of the program.

(e) Ensure instruction and training points out the benefits of the program and stimulate cooperation of all concerned.

(f) Ensure personnel under their command are provided both environmental and personal protective equipment necessary for foot safety.

(g) Prevent access to foot hazard areas to anyone not equipped with foot protection.

(2) MSO will—

(a) Assist PM/IH in identifying the specific areas of a unit or organization that require foot protection.

(b) Inspect for the proper identification and protection from foot hazards during all inspections and surveys.

(c) Provide assistance to units and organization on determining the proper foot protection for a particular hazard.

(3) IH/PM, will—

(a) Provide assistance to units and organization on determining the proper foot protection for a particular hazard.

(b) Identify, in writing, the specific areas of a unit or organization that require foot protection.

(c) Inspect for the proper identification and protection from foot hazards during all inspections and surveys.

(d) Provide assistance to units and organization on determining the proper foot protection for a particular hazard.

(4) Unit and organization ADSOs/CDSOs/NCOs and supervisors will—

(a) Coordinate with a safety specialist from MSO for identification of areas, operations, and occupations where foot protection is required.

(b) Coordinate with a safety specialist from MSO for assistance and advice in the selection of proper foot protection devices to protect the employees' feet.

(c) Coordinate with the unit CDR or organization DIR to ensure that a foot protection program is in conformance with applicable regulations and directives.

(d) Conduct random inspections and surveys to determine the continued effectiveness and enforcement of the foot protection program.

(5) All military and civilian personnel assigned to work in foot hazardous areas or occupations will—

(a) Keep protective foot wear clean, properly fitted, and in serviceable condition.

(b) Adhere to SOPs.

(c) Warn others and supervisors of known hazards or failure to observe safety rules.

c. Hazardous areas. Any area that has material or equipment that can cause damage upon falling on or rolling over the foot should be considered when surveying for the foot protection program. Some processes are automatically included such as the following:

(1) Construction sites.

(2) Warehousing.

(3) Garages and mechanical repairs.

(4) Arc welding.

(5) During manual assembly of bridging equipment.

Chapter 19
ERGONOMICS PROGRAM

19-1. General

a. This chapter provides guidance for establishing the ergonomics program component as an integral part of the occupational safety and health program at FLW.

b. This chapter applies to installation-level work site analysis, hazard prevention and control, health care management, education and training, and ergonomics program evaluation at all units and organizations on FLW.

19-2. Goals

a. The goals of the ergonomics program are to—

(1) Prevent injuries and illness by eliminating or reducing worker exposure to work-related muscle skeletal disorders (WMSDs) risk factors.

(2) Reduce the potential for fatigue, error, and unsafe acts by adapting the job and workplace to the worker's capabilities and limitations.

(3) Increase the overall productivity of the workforce.

(4) Reduce workers' compensation claims and associated costs.

(5) Improve overall unit readiness.

b. An early identification and prevention of WMSDs will preserve and protect our military and civilian workforce while decreasing related costs.

19-3. Responsibilities

a. The MSCoE CG will appoint an Installation Ergonomics Officer (IEO).

b. CDID will use ergonomics principles in the process of developing and refining Army systems, specifically in Army-wide initial equipment design, assessment, and related human performance research.

c. The IEO will—

(1) Inspect programs annually.

(2) Provide an annual assessment of the installation program.

(3) Provide training for unit/organization ergonomics program coordinators.

(4) Conduct specialized assessments of work areas upon unit/organization request.

d. CDRs/DIRs will—

(1) Appoint a unit or directorate ergonomic program coordinator.

(2) Ensure that the unit or directorate ergonomic program coordinator is properly trained.

(3) Ensure that an ergonomics assessment is conducted for all office work sites and coordinate with IH for assessments on industrial type operations that have ergonomic hazards.

(4) Take steps to correct hazards identified during the ergonomics assessment.

(5) Ensure that personnel who report an injury or pain suspected to have been caused by the work site are referred to OH at the GLWACH.

e. Individuals will—

(1) Comply with work site requirements to prevent ergonomic hazards.

(2) Report any ergonomic hazards to their supervisor.

(3) Report any pain or injury believed to have been caused by the work site to their supervisor.

f. Installation Ergonomics Committee will—

(1) Meet quarterly to discuss the conduct and improvement of the Installation Ergonomics Program IAW DA Pam 40-21, paragraph 1-9 a (1). Committee members will be comprised IAW DA Pam 40-21, paragraph 1-9 d. Findings of the committee will be reported to the SOHAC.

(2) Assist the IEO in conducting an annual program assessment.

(3) Recommend improvements to the program.

(4) Develop, document, and maintain the installation ergonomics plan. They may—

(a) Solicit input to the plan from health care providers, including physicians, nurses, occupational therapists, physical therapists, and physician assistants.

(b) Integrate the plan with the installation or activity health promotion and wellness program coordinator as appropriate.

(5) Request technical assistance on plan development from Public Health Command (PHC).

g. The installation SOHAC recommends the installation ergonomics plan to the CDR for approval and communicates the plan to all managers, supervisors, and workplace personnel.

19-4. Organizational involvement

A collaborative partnership among all levels of the working community is essential in achieving the goals of the ergonomics program. Command emphasis, commitment by management, and demonstrated visible involvement are imperative to provide the organizational resources and motivation needed to implement a sound ergonomics policy. All levels of personnel (manager, supervisor, worker, and Soldier) are responsible for injury prevention and the identification and resolution of WMSDs.

19-5. Trend analysis

Problem identification, use the following procedures of systematic passive and active surveillance to identify jobs or work sites with WMSD risk factors.

a. Systematic passive surveillance. This procedure involves the analysis of data provided in existing monthly or quarterly reports. This analysis can identify WMSD problems, set intervention

priorities, and organize the ergonomics effort. The office responsible for maintaining the records, logs, or reports should perform the systematic passive surveillance and communicate the results to the IEO and the ergonomics subcommittee. Sources of data include:

(1) Routine injury and illness reports.

(2) Log of Federal Occupational Injuries and Illnesses or equivalent.

(3) Federal Employee Compensation Act (FECA) claims.

(4) DA Form 285 and DA Form 285-AB.

(5) Medical and safety records.

(6) Workforce reports (including civilian and active-duty personnel and pay reports of lost duty time as a result of injury or illness) and suggestions.

b. Systematic active surveillance. This procedure involves focused and active efforts to gather information about WMSD hazards at work sites and to identify workers at risk of developing a WMSD. Trained ergonomics personnel (see glossary) should perform active surveillance in conjunction with IH or safety surveys or regular training.

(1) Examples of active surveillance procedures include—

(a) Questionnaires and surveys. Supervisor and worker questionnaires and symptom or body part discomfort surveys provide information about WMSD hazards, often before actual injuries occur trained ergonomics personnel can administer these surveys during walk-through surveys or as part of regular training.

(b) Observation. Direct observation by trained ergonomics personnel conducting regular walk-through IH or safety surveys can identify WMSD hazards. Worker interviews during these surveys can identify tasks or situations that are uncomfortable and may indicate WMSD risk factors. For example, workers note that cold temperatures make it difficult to grip hand tools.

(c) Sentinel event or incident reporting. Specific health or performance events, such as wrist pain, back pain, or increased errors, may be indicative of WMSD risk factors. Use a specific reporting procedure to facilitate reports.

(d) Case referrals. Use case referrals to identify a work area with potential WMSD risk factors. For example, a laboratory technician seeks medical care for hand and wrist pain and provides an occupational history that indicates possible work site risk factors.

(2) The presence of one WMSD should trigger an active surveillance survey using appropriate questionnaires or surveys. Trained ergonomics personnel should perform systematic active surveillance at all work sites at least once per year. Also, trained ergonomics personnel should perform walk-through surveys for any new or significantly changed job, process, equipment, or method.

(3) In many cases, corrections to the WMSD hazards or risk factors are simple, quick, on-the-spot workplace changes. Trained ergonomics personnel conducting regular walk-through surveys can identify and implement the solution immediately. More complex problems will require prioritization and detailed analysis.

(4) If a work site or job is identified as high risk, special medical surveillance may be indicated.

19-6. Prioritization

The ergonomics specialist (for example, IH, safety, health care, etc.) should prioritize work sites for detailed analysis based on the passive and active surveillance information. The prioritization may be based on incidence rates, the number of workers affected, direct costs, lost work time, or severity of cases. Calculate incidence, prevalence, and severity rates by unit, work section, or job series to identify high-risk areas. Use FECA claims information to identify high-cost injuries and high-risk work areas.

19-7. Hazard prevention and control

The primary method of preventing and controlling exposure to WMSD hazards is through effective design (or redesign) of a job or work site or the elimination of the hazardous job or conditions. A trained ergonomic specialist (for example IH, safety, health care provider, or unit trained ergonomic officer) will assist in design or elimination of the ergonomic hazard. Other methods can include administrative or PPE controls.

19-8. Training

The "Train the Trainer" concept administers training programs in a pyramid fashion.

a. Ergonomics experts provide training to develop IEOs.

b. Trained IEOs—

(1) Will in turn train unit/organization ergonomics program coordinators and others at the installation level, including supervisors and workers.

(2) May also train special assistants, who can help with recognizing WMSDs. The special assistants may be representatives from each department or division who assist other department members in recognizing and reporting WMSDs.

19-9. Training requirements

a. The IEO should have—

(1) A minimum of 40 hours of formal ergonomics training. Formal training is classroom instruction, exercises, supervised work site assessment, and individual learning assignments.

(2) Training and experience sufficient to identify WMSDs and risk factors.

b. Trained unit/organization ergonomics program coordinators should have—

(1) A minimum of 4 hours of formal ergonomics training.

(2) Training and experience sufficient to identify WMSDs and risk factors.

Chapter 20
BLOODBORNE PATHOGENS PROGRAM

20-1. General

a. This section establishes the FLW's Bloodborne Pathogens Program. This document prescribes policy guidance necessary to ensure that the minimal acceptable requirements of DA and OSHA are being applied. Due to the nature of the exposure, GLWACH and the Dental Activity (DENTAC) will have their own exposure plans separate from this chapter.

b. Each organization on FLW must determine if any personnel in their organization, during the normal course of their duties could be exposed to human bodily fluids that may contain bloodborne pathogens or diseases.

(1) Each organization having Service members or civilian employees with occupational exposure must establish a written exposure control plan designed to eliminate or minimize employee exposure.

(2) The exposure control plan shall contain at least the following elements:

(a) The exposure determination; Maintain a list of personnel and positions that may be exposed through their on-the-job tasks to bodily fluids. This list often includes firefighters, military police, security guards, lifeguards, and combat lifesavers.

(b) Methods for compliance; Hepatitis B vaccination, post-exposure evaluations and follow-ups, communication of hazards to Service members and employees will be documented, and recordkeeping maintained.

(3) Access; the exposure control plan must be accessible to Service members and employees who may be exposed.

(4) Review; The exposure control plan shall be reviewed and updated at least annually or whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure or to reflect new or revised employee positions with occupational exposure.

20-2. Exposure determination

a. Each CDR/DIR will develop a list of all job classifications in which all employees in those job classifications have occupational exposure.

b. A second list will be developed of duties in which some employees have occupational exposure.

c. A list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs.

d. This exposure determination shall be made without regard to the use of PPE.

20-3. Control measures

a. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

b. PPE.

(1) When there is occupational exposure, the employer shall provide appropriate PPE such as gloves; face shields, masks, eye protection, mouthpieces, resuscitation bags, pocket masks, and/or other ventilation devices.

(2) PPE will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or mucous membranes under normal conditions of use. Consideration will be given for the duration of time the PPE will be used.

(3) The Service member or the employee must use appropriate PPE unless the Service member or the employee declines to use PPE. Under rare and extraordinary circumstances, in the Service member or employee's professional judgment that its use would have prevented the delivery of health care or public safety services; it could pose an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

(4) The appropriate PPE in the appropriate sizes must be readily accessible at the work site or issued to employees. Hypoallergenic gloves, glove liners, powder-free gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

(5) Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials.

(6) Disposable (single use) gloves such as surgical or examination gloves shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

(7) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

c. Supervisors shall ensure that employees wash their hands immediately or as soon as possible after removal of gloves or other PPE.

d. Supervisors shall ensure that employees wash hands and any other exposed skin with soap and water. Flush mucous membranes with water immediately or as soon as possible following contact with blood or other potentially infectious materials.

e. All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

20-4. Training

a. Must be conducted at the time of initial assignment to tasks where occupational exposure to bloodborne pathogens may take place and at least annually thereafter.

b. Additional training must be conducted when changes, modification of tasks or procedures, or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

c. Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

d. The training program shall contain at a minimum the following elements:

(1) A general explanation of the epidemiology and symptoms of blood-borne diseases.

(2) An explanation of the modes of transmission of bloodborne pathogens.

(3) An explanation of the installation exposure control plan (this chapter), and the means by which the employee can obtain a copy of the written plan.

(4) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.

(5) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate administrative and engineering controls, work practices, and PPE.

(6) Information on the types, proper use, location, removal, handling, decontamination, and disposal of PPE.

(7) An explanation of the basis for selection of PPE.

(8) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, and the benefits of being vaccinated.

(9) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.

(10) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.

(11) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.

(12) An opportunity for interactive questions and answers with the person conducting the training session.

e. The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program.

20-5. Hepatitis B vaccination

a. The hepatitis B vaccine and vaccination series shall be made available to all employees who have occupational exposure.

b. The supervisor shall ensure that employees who decline to accept the hepatitis B vaccination offered by the installation sign a statement of declination.

c. If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the supervisor shall make available hepatitis B vaccination at that time.

20-6. Post exposure evaluation and follow-up

Following a report of an exposure incident the exposed Service member or employee will be provided a confidential medical evaluation and follow-up, including at least the following elements:

a. Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred.

b. Identification and documentation of the source individual, unless the supervisor can establish that identification is infeasible or prohibited by state or local law.

c. The source individual's blood shall be tested as soon as possible after consent is obtained in order to determine hepatitis B virus (HBV) and human immunodeficiency virus (HIV) infectivity. If consent is not obtained, the supervisor shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested, and the results documented. When the source individual is already known to be infected with HBV or HIV further testing is not required.

d. Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

e. The exposed employee's blood shall be collected as soon as possible and tested after consent is obtained.

f. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as possible.

g. Post-exposure follow-up will include counseling and an evaluation of reported illnesses.

h. The health care professional evaluating an employee after an exposure incident shall be provided the following information:

(1) A copy of this regulation.

(2) A description of the exposed employee's duties as they relate to the exposure incident.

(3) Documentation of the route(s) of exposure and circumstances under which exposure occurred.

(4) Results of the source individual's blood testing, if available.

(5) All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

i. The health care professional's written opinion shall be provided to the unit or organization of the Service member and a copy will be provided to the Service member or employee within 15 days of the completion of the evaluation. The health care professional's written opinion for post exposure evaluation and follow-up shall be limited to the following information:

(1) That the employee has been informed of the results of the evaluation.

(2) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

(3) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

20-7. Responsibilities

a. CDRs/DIRs will—

(1) Conduct an assessment to determine if occupational exposure may occur to personnel within the organization.

(2) Develop an exposure plan for those personnel who may be exposed.

(3) Ensure that personnel who may be exposed receive initial and annual training on bloodborne pathogens.

(4) Ensure that regular inspections are conducted to determine the continued effectiveness of the program.

(5) Ensure that personnel under their command are provided PPE as necessary.

(6) Ensure that personnel know their rights for taking or declining the Hepatitis B vaccination.

(7) Maintain training records to document completion of training.

(8) Refer personnel who may have been exposed to bodily fluids to OH nurse located at GLWACH for screening. Record of referrals for each identified individual shall be maintained separate from medical records for administrative control.

b. MSO will—

(1) Assist CDRs/DIRs in identifying specific tasks that may allow for exposure.

(2) Review unit and organizational exposure control plans for completeness.

(3) Review the accuracy and completeness of this program during all inspections and surveys.

c. The OH Office, GLWACH, will—

(1) Assist CDRs in identification of tasks that may cause exposure.

(2) Review unit or organizational exposure control plans for accuracy and completeness.

(3) Provide training to personnel who may be potentially exposed.

(4) Assist CDRs/DIRs in determining which items of PPE are appropriate for the hazard.

(5) Arrange for proper tests and evaluations for a person who is believed to have been exposed to bodily fluids.

(6) Provide follow-up for personnel who have been exposed.

(7) Arrange for health care provider opinion of possible exposure.

(8) Maintain medical records and record all exposures.

d. Unit and organization ADSOs/CDSOs/NCOs and civilian supervisors will—

(1) Coordinate with the OH Office, GLWACH, for identification of tasks, operations, and occupations where bodily fluids may be contacted.

(2) Coordinate with the OH Office, GLWACH, for assistance and advice in the selection of proper PPE to protect personnel.

(3) Coordinate with the unit CDR or organization DIR to ensure that a bloodborne pathogens program (if needed) is in conformance with applicable regulations and directives.

(4) Conduct random inspections and surveys to determine the continued effectiveness of the bloodborne pathogens program. The bloodborne pathogens program shall be a point of interest in the unit's OIP.

e. All military and civilian supervisors of personnel assigned to work in potential bloodborne pathogen hazardous areas or occupations will—

(1) Ensure that potential exposure is included in civilian job descriptions.

(2) Ensure that potentially exposed employees are properly trained and properly use PPE.

f. All military and civilian personnel assigned to work in bloodborne pathogen hazardous areas or occupations will—

(1) Keep PPE clean, properly fitted, and in serviceable condition.

(2) Adhere to SOPs and this Regulation.

(3) Warn others of known hazards or report failure to observe safety rules.

20-8. Recordkeeping

a. The employer shall establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020.

b. This record shall include the following:

(1) The name and social security number of the employee.

(2) A copy of the employee's hepatitis B vaccination status, including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination.

(3) A copy of all results of examinations, medical testing, and follow-up procedures.

(4) The employer's copy of the healthcare professional's written opinion.

(5) A copy of the information provided to the healthcare professional.

c. Confidentiality. The employer shall ensure that employee medical records are—

(1) Kept confidential.

(2) Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

(3) Maintained for at least the duration of the employee's employment plus 30 years in accordance with 29 CFR 1910.1020.

d. Training records shall include the following information:

(1) The dates of the training sessions.

(2) The contents or a summary of the training sessions.

(3) The names and qualifications of persons conducting the training.

(4) The names and job titles of all persons attending the training sessions.

e. Training records shall be maintained for 3 years from the date on which the training occurred.

Chapter 21
HAZARD COMMUNICATION/GLOBAL HARMONIZATION SYSTEM (HAZCOM/GHS) PROGRAM

21-1. General

Chemicals pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity). This HAZCOM/GHS program is designed to ensure that information about these hazards and associated protective measures are disseminated to workers and employers.

21-2. Responsibilities

a. CDRs/DIRs will—

(1) Ensure that an individual is appointed to coordinate the HAZCOM/GHS program within their organization and act as the central POC.

(2) Ensure that all elements of this program are complied with.

(3) Ensure that this regulation, the organization's hazard chemical inventory, and applicable MSDS/SDSs are readily available for personnel working with hazardous chemicals.

b. MSO will—

(1) Oversee the HAZCOM/GHS program.

(2) Monitor unit's Chemical Hazard Inventory Log during the SASOHI and OIPs.

(3) Provide train-the-trainer or initial training for the HAZCOM/GHS program coordinator upon request.

(4) Monitor effectiveness of employee's HAZCOM/GHS training through an established inspection program.

(5) Assist user in obtaining MSDS/SDSs.

c. Preventive Medicine Service, MEDDAC, will—

(1) Assist in determining employees to be trained through the HHIM.

(2) Interpret MSDS/SDS data for units upon request.

(3) Conduct or coordinate medical surveillance and health hazard training for military and civilian employees potentially exposed to OH hazards.

(4) Assist user and/or MSO in obtaining MSD/SDSs if not available.

d. Supervisors (military and civilian) will ensure that employee HAZCOM/GHS training is documented in the employee's record. Supervisors will also ensure that their organization participates in the Hazardous Material Management Program by reporting all GPC or locally purchased HAZMAT to the DOL for inclusion into HMMS and reporting all expended HAZMAT items to DOL as well.

e. MICC will—

(1) Comply with requirements of Subpart 23.3 FAR 52.223.

(2) Ensure that the least hazardous chemical is purchased for the intended task. The manufacturer will be required to submit an MSDS/SDS for the chemical they want to provide so the MSO can assist in determining the least hazardous chemical to purchase.

(3) Contact manufacturers supplying hazardous chemicals for an MSDS/SDS not received with shipping documents, requesting the MSDS/SDS be forwarded as soon as possible.

(4) Forward one copy of the MSDS/SDS to the supply warehouse/receiving unit.

(5) Ensure that contractor's safety program include the OSHA requirements of HAZCOM/GHS standards.

f. DOL will—

(1) Manage the Hazardous Material Management System for Fort Leonard Wood, providing inventory labels for HAZMAT items received through the Supply System and entering those items into the HMMS data base inventory. DOL will also provide labels for GPC purchased HAZMAT items reported by customer units. DOL will report those items expended when customers return those inventory labels from the expended HAZMAT items.

(2) Provide an MSDS for all items received through the Supply System or through GPC purchase. Additional MSDS will be provided upon request.

(3) Accept excess unwanted serviceable HAZMAT items from customers and make available to other customers who may have a need for the items. Expired shelf-life or otherwise unserviceable HAZMAT items are classified as HAZWASTE and must be turned into DPW for disposal.

g. Unit's responsibilities are to update the unit hazardous chemical inventory as new chemicals arrive in the unit and ensure that locally purchased items are also reported to the DOL HAZMAT representative for addition to that inventory and affix the resulting label provided for each item in the inventory. When each item is expended the unit will then return the label to DOL for inventory reduction in HMMS.

h. Supervisors will achieve the following:

(1) Maintain an inventory of all hazardous chemicals used in the workplace.

(2) Maintain MSDS/SDSs on all hazardous chemicals used in the workplace and make readily available to employees.

(3) Train employees on specific hazards associated with the chemicals used in their workplace and protective measures to prevent injury/exposure to hazardous chemicals.

(4) Ensure employees performing non-routine tasks of any hazardous chemicals they may use or come in contact with and protective measures to prevent exposure.

i. Unit S-4s and supply rooms are responsible for the following:

(1) Ensure receipt of MSDS/SDS with shipment of hazardous chemicals.

(2) Provide MSDS/SDS to user at the time of issue.

(3) Ensure the least hazardous chemical is purchased for the intended task. MSO can assist in determining the least hazardous chemical to purchase.

21-3. Procedures

a. Labeling.

(1) Labeling shall provide workers with baseline information on the substances they are exposed to. A label is not intended to provide full information on the substance.

(2) Label containers with the chemical identity and the appropriate hazard warnings.

(3) Containers where a toxic substance or mixture is being transferred from a labeled container, which is intended for immediate use by the employee making the transfer, are exempt from labeling.

(4) Containers must be individually labeled. The labels must be affixed and displayed in such a manner that employees can easily identify the hazardous substance contained within.

(5) If labeling or relabeling is required, the user shall complete the DOD hazardous chemical label and affix it to all individual hazardous chemical containers. Known or suspected carcinogen containers will be labeled to properly identify the contents with "**DANGER CHEMICAL CARCINOGEN**."

(6) Information on the DOD hazardous chemical label shall include the chemical name and the name of the manufacturer, importer or responsible party, and appropriate hazards.

(7) The chemical common name on the DOD label shall be the same as shown on the MSDS/SDS.

(8) Hazardous wastes must also meet the labeling requirements of the Environmental Division Branch. Units generating hazardous wastes will contact the Environmental Management Division at 596-0882 to obtain proper hazardous waste labels.

(9) Chemicals used in laboratories need not be relabeled if labels on incoming containers of hazardous chemicals are not defaced or removed.

b. Material Safety Data Sheets/Safety Data Sheet (MSDS/SDS).

(1) Contents of any MSDS/SDSs used on FLW must meet all regulatory requirements.

(2) The MSDS/SDS for locally purchased items and nonstandard stock hazardous chemicals should be requested at the time of purchase.

(3) If an MSDS/SDS is not received with a locally purchased hazardous chemical, the supervisor may contact the vendor or manufacturer or find it on the Internet by typing "MSDS/SDS" in the search window. The hazardous chemical will not be used until an MSDS/SDS is available and on hand.

(4) Identification of a hazardous material and correct matching to its MSDS/SDS is required. Critical differences exist between similarly named chemicals/products from different manufacturers.

(5) All personnel will have ready access during each work shift to MSDS/SDS applicable to their work area. Accessibility will be achieved by placing copies in the immediate work area or by providing rapid response from a centralized MSDS/SDS file. Employees who question the safe use of a material will not be required to use it until an approved MSDS/SDS is provided and the hazards and protective procedures explained.

(6) Protection of trade secret information is required. Data contained in the limited release edition of the hazardous materials information system will be treated in the same manner as "For Official Use Only" information.

21-4. Unit checklist for HAZCOM/GHS compliance

a. Is an individual appointed to coordinate the HAZCOM/GHS program within the unit?

b. Is there a hazardous chemical inventory covering all hazardous chemicals within the organization, and is the inventory list readily available to workers?

c. Is there a MSDS/SDS for each chemical in the inventory, and are the MSDS/SDSs readily available for the worker's review?

d. Is an SOP developed covering the execution of the HAZCOM/GHS program within the unit? See appendix P for a sample HAZCOM SOP.)

e. Have all personnel who work with hazardous chemicals as a normal part of their duties been properly trained (such as The Federal Hazard Communication Training Program and unit specific training)?

f. Are all hazardous chemical containers properly labeled?

g. Are all hazardous chemicals properly stored?

h. Have all personnel who work in facilities where hazardous chemicals are stored been informed of their presence and told what to do in case of emergency?

Chapter 22
AMMUNITION AND EXPLOSIVES (A&E)

22-1. Responsibilities

a. Manager, Ammunition Supply Point (ASP) will—

(1) Ensure ASP operations and facilities are in accordance with the provisions of DA Pam 385-64, DA Pam 385-65, and DA Pam 385-30.

(2) Develop, implement, and enforce SOPs for all aspects of A&E handling, to include customer procedures for ASP interaction and container express (CONEX) usage.

(3) Maintain a complete inventory, by storage facility, showing Department of Defense Ammunition Code (DODAC), nomenclature, quantity, storage compatibility groups, and total net explosives weight (NEW).

(4) Maintain a current copy of the ASP site plan and license.

(5) Maintain a copy of the latest lightning protection system (LPS) inspection report furnished by the Installation Lightning Protection engineer.

(6) Maintain a copy of work orders submitted for corrections of safety deficiencies.

(7) Review all A&E items stored in the FLW ASP storage facilities to ensure that storage items do not exceed the site license that has been approved for that facility.

(8) Verify the hazard designation for each storage facility, and, upon change of hazard designation immediately inform the DES, Quality Assurance Specialist, Ammunition Surveillance (QASAS), and MSO of the fire hazard symbol change and location of facility.

(9) Provide notification to MSO and the QASAS personnel when there is a need for any change in site license, or when a unit requests to draw ammunition for other than training purposes.

(10) Ensure all ammunition workers are properly trained, with applicable certifications. Training records and certificates will be maintained on file at the ASP.

b. Installation Ammunition Officer will—

(1) Provide ammunition expenditure reports to Real Property Division for permanent archival storage.

(2) Monitor, and report, any violations of ammunition handling, transportation or accountability procedures to MSO and QASAS.

c. MSO will—

(1) Monitor all installation A&E operations for compliance with explosives safety standards.

(2) Ensure knowledgeable and qualified safety personnel review installation site plans, safety submissions, and facilities designs before submission to HQ, TRADOC.

(3) Assist units in determining quantity-distance (QD) requirements with assistance from ASP personnel and QASAS.

(4) Evaluate and make recommendations for approval of requests for explosives safety Certificate of Risk Acceptance (CORA) and exemptions. Forward all Certificate of Risk Acceptance (CORA) and exemptions to TRADOC Explosive Safety Manager.

(5) Review explosives safety actions before forwarding to HQ TRADOC, to ensure operational needs and safety implications are clearly defined and projected requirements are stated.

(6) Inspect ASP facilities and operations for special hazards IAW AR 385-10, paragraph 4-1a(1).

(7) Assist tenant units and site CDRs regarding explosives safety program requirements.

(8) Review QASAS magazine inspection reports and track abatement actions for explosives safety deficiencies.

(9) Participate in preparation of site plans/safety submissions for explosives operations and facilities.

(10) Conduct inspections (at least annually) of all A&E storage areas to include site licenses and arms room site-licenses.

(11) Maintain a list of all ammunition storage area requirements and records of annual inspections.

(12) Ensure a current list of all FLW ammunition storage sites is provided to the DES and Physical Security Office.

(13) Review QD compliance for new or planned facilities on existing A&E sites.

(14) Review SOPs, Certificate of Risk Acceptance (CORA) and exemptions.

(15) Ensure that A&E safety training as required by this regulation is established for each responsible individual training plan that has an A&E responsibility.

(16) Participate in the installation master planning process, and review annually, the installation master plan to ensure construction is not planned inside explosive safety arcs. If construction not related to ammunition operations is required within explosive safety arcs, the explosive safety site plans and explosive licenses will be updated and approved at the appropriate level.

(17) Serve as the central repository for all explosive documentation and recordkeeping

(18) Be the chair of the FLW Explosive Safety Council. Council will be held on a quarterly basis. Report any major A&E deficiencies to the SOHAC.

(19) Conduct A&E accident investigations. Document and disseminate explosive lessons learned. Provide investigative data.

d. DPTMS will—

(1) Develop and conduct the Installation Ammunition Handler Certification Course, in conjunction with the DOL, QASAS, and MSO.

(2) Maintain ranges and restricted areas with signage of hazards IAW AR 385-63 and provide the installation with historical information on closed and inactive ranges for ammunition/explosive areas.

(3) Provide a POC for any transferred lands that have been identified or have the potential for ammunition/ explosive contamination.

(4) Assist A&E accident investigations. Document and disseminate explosive lessons learned. Provide investigative data to MSO.

(5) Oversee all A&E disposal activities when they occur, and provide the DES and MSO with historical records on ranges and explosive areas.

(6) Notify MSO and provide technical assistance with any weapon system modifications, special exercises, or test programs conducted on FLW.

(7) Participate in planning for contingencies that involve munitions.

(8) Assist CDR and staff with safety concerns associated with real property containing, or suspected of containing UXO.

(9) Provide updated A&E safety information through range briefings and range certification training.

(10) Notify DES, MSO, and QASAS of ammunition or explosive mishaps and malfunctions.

(11) Coordinate all requests for waivers associated with ranges and training activities involving ammunition or explosives through MSO and QASAS.

e. DOL will—

(1) Develop and implement a written SOP IAW AMC-R 700-107 that describes safe operating procedures for all aspects of ASP activities, to include material handling equipment (MHE), and PPE considerations.

(2) Provide support with military munitions rule (MMR) reporting and inspection of the Waste Military Munitions (WMM) program.

(3) Maintain records of declared WMM storage to include accurate inventory, storage location, and final disposal actions.

(4) Address munitions-related environment contamination issues.

(5) Maintain the installation explosives location map to monitor encroachment within explosive safety arcs.

(6) Develop and implement a written SOP that provides safety procedures for handling and storage of small arms spent brass.

(7) Maintain all records and documentation certifying spent brass as explosive free.

(8) Prepare and provide, as part of the installation master plan, the A&E site map, which will include the following information:

(a) Explosive safety clear zones required around each location based on QD criteria.

(b) Primary and alternate explosive movement routes through installation.

(c) Authorized locations outside of designated impact areas for conducting explosives operations, to include explosives loading and unloading.

(d) Explosives support facilities, such as ammunition holding areas (AHAs).

(e) The overall historical depiction of abandoned range or storage sites.

(f) The current A&E sites with approved or requested site licenses.

(9) Provide above data and maps to the Installation Master Planning Board for use in installation construction projects and for review by the MSO, DES, DPW Environmental Division, and Range Operations.

(10) Provide training funds for personnel with A&E safety responsibilities, to include personnel with a requirement to perform electrical protection testing.

(11) Evaluate and conduct annual tests and surveys on the ASP LPS IAW DA Pam 385-64 and NFPA 780.

f. CDRs with a mission involving A&E will—

(1) Ensure that written programs are established (at BN level and above) for the safety and accountability of all A&E used on training ranges, training exercises, and operations.

(2) Ensure compliance with all applicable regulatory guidance.

(3) Appoint a unit or organization POC for A&E safety.

(4) Integrate the RM process into all range and explosives operations to include storage, transporting, and handling procedures.

(5) Ensure that training ammunition drawn for training events is kept properly packed in its original packing and remains packed in the shipping containers/boxes or cartons until immediately prior to use. Only the quantity that is expected to be fired will be broken out of its packing.

(6) Save all packing material and use for repacking ammunition prior to ammunition turn-in or turn in the packing material to the ASP at the unit's hand receipt clearance time.

(7) Ensure that no loose or unpacked ammunition is transported on any motor vehicle or stored in any unit area to include unit arms rooms.

g. QASAS will—

(1) Ensure that the explosive safety program complies with provisions of DA Pam 385-64, DA Pam 385-65, and DA Pam 385-30, and monitor operations involving A&E to ensure compliance with the explosive safety standards.

(2) Develop and implement an SOP specific to ammunition surveillance operations, and review written safety procedures for receiving, storing, issuing, handling, transporting, and disposing of ammunition at least annually.

(3) Ensure that requests for Certificates of Risk Acceptance submitted IAW DA Pam 385-30 and explosive safety standards in AR 385-64, DA Pam 385-64, and this regulation. Requests for CORA's will require MSO to determine the hazard involved, identify exposure and actions taken to correct hazard/exposure.

(4) Ensure that established QD arcs are correctly indicated on installation master planning maps and assist in the installation master planning process, reviewing (annually) the installation master plan to ensure construction is not planned inside explosive safety arcs IAW DA Pam 385-65.

(5) Provide technical assistance to the MSO in the development of explosives licenses and explosives safety site plans/submissions IAW DA Pam 385-64 and DA Pam 385-65.

(6) Recommend approval/disapproval of pyrotechnic displays, in conjunction with the DES Fire Department, and use of explosives in connection with public demonstrations, exhibitions, and celebrations.

(7) Ensure that A&E accidents/mishaps are reported IAW AR 385-10, TRADOC Reg 385-2 and DA Pam 385-40.

(8) Assist units in determining QD requirements.

(9) Evaluate and make recommendations for approval of requests for Certificates of Risk Acceptance.

(10) Review explosives safety actions before forwarding to MSO to ensure that operational needs and safety implications are clearly defined and projected requirements are stated.

(11) Inspect ASP facilities and operations semi-annually, and forward inspection results to MSO.

(12) Visually inspect all LPSs semi-annually, and forward inspection results to MSO.

(13) Develop and deliver requisite A&E training specific to FLW operations, and assist tenant units and site CDRs regarding explosives safety program requirements.

(14) Monitor ammunition uploads and other activities involving transportation and storage of ammunition in other than authorized and licensed storage areas to ensure that pertinent requirements are met.

(15) Monitor and evaluate explosives activities, including the following:

(a) Arms room ammunition storage and handling. QASAS will conduct annual ammunition serviceability and management procedure inspections of units that retain ammunition as an operational, guard, or ceremonial requirement.

(b) Ensure procedures are developed, and in place, for—

- Maintaining fire symbols and chemical hazard symbols current with actual A&E stored at a particular location to include the unit arms rooms that have ammunition storage approval.
- Ensuring that personnel responsible for managing A&E maintain current information on the type and location of A&E storage and provide this information to safety, firefighting, and security personnel. This will include the ammunition that is approved for storage in specific unit arms rooms.
- Transporting A&E.

(c) Review unit SOPs and directives for compliance with explosive safety requirements.

(16) Assist in the installation master planning process, and review annually the installation master plan to ensure construction is not planned inside explosive safety areas.

(17) Maintain a complete inventory, by storage facility, showing DODAC, nomenclature, quantity, storage compatibility groups, and total NEW.

(18) Maintain a current copy of the ASP site plan and license.

(19) Work in conjunction with MSO for circumstances not specifically addressed in applicable regulations.

22-2. A&E safety inspections

a. MSO will perform periodic (at least annual) inspections, including hazard identification and follow-up of corrective measures, of the ASP, AHA storage, and the surveillance packing and handling site.

b. This annual inspection will address all OSHA inspection requirements and the following:

(1) Comparison of stored ammunition versus ammunition authorized by the license or site plan.

(2) Identification of any overages or storage compatibility violations.

(3) Verification of separation requirements stipulated in licenses and site plans.

(4) Evaluation of the safety of storage facilities, including adequacy of earth cover on magazines, barricades, and condition of LPS and ventilators.

(5) Review complete inventory by storage facility showing DODAC, nomenclature, quantity, and total NEW.

(6) Review and evaluate the latest report for the electrical grounding inspection conducted of the ASP LPS.

c. In addition to routine surveillance operations, QASAS will conduct a formal inspection at least once per year, addressing the items listed above.

d. The results of the QASAS inspection will be provided to DOL and MSO.

22-3. Explosives Ordnance Detachment (EOD) will—

a. Provide UXO disposal support.

b. Provide support to Range Operations for notification of UXO procedures.

c. Support the installation with UXO training, both for the military and the surrounding civilian communities.

d. Maintain appropriate disposal records on all UXO/explosive operations.

e. Maintain appropriate records and housekeeping of assigned ammunition storage area at the ASP.

f. Police the EOD training area after each training session.

g. Assist the QASAS and Range Operations with A&E associated with misfires/hangfires.

22-4. Ammunition storage in unit arms rooms

a. Storage in an AHA or ASP will be used unless such use would adversely impact operations or result in an unnecessary commitment of resources (for example, require unit personnel to provide 24-hour security or extended travel).

b. The term "limited quantities" is defined as the minimum amount of ammunition required to support operational missions (for example, for security guard forces or MP) or the immediate training requirements of the unit owning the facility. For hazard division (HD) 1.2.2 this may not exceed 50 pounds NEW and for HD 1.3 this may not exceed 100 pounds NEW.

c. The term "operational necessity" is defined as a mission associated with war or peacetime operations in which the consequences of an action justify the risk of loss of equipment and personnel. The qualifier "operational necessity" is intended to provide CDRs the flexibility to ensure mission performance, to include training, without a waste of resources. It is not intended to allow such storage for convenience. Munitions authorized for storage in arms rooms are limited to HD 1.2.2 (40mm and below), HD 1.3, and HD 1.4S. When HD 1.2.2 is stored in an arms room, the proper fragmentation shielding must be provided.

d. Storage of ceremonial ammunition is not considered an operational necessity. However, a limited quantity of HD 1.3 and HD 1.4 ceremonial ammunition (for example, 75 mm blank or 105 mm blank) may be stored in an arms room provided no other practical alternative exists. The amount of HD 1.3 and HD 1.4 stored will not exceed the lesser of 100 pounds NEW or one full outer pack of ammunition.

e. Prior to a unit storing ammunition in an arms room, the Garrison/BDE CDR's will approve the risk assessment that justifies the storage based on operational necessity and safety considerations. In approving this assessment, the CDR will consider the need to expose the minimum number of personnel to the minimum amount of explosives for the minimum amount of time possible. The risk assessment will be coordinated with installation safety, logistics, security, fire protection, and ammunition surveillance personnel. The risk assessment will be posted at the arms room and all arms room personnel will be briefed, at least annually or after a change of personnel, on its contents.

f. The CDR, or equivalent-level individual, will ensure that the facility used is properly licensed for storage of explosives. The license will specify the location approved for storage; the quantity of ammunition, by Department of Defense Identification Code (DODIC), approved for storage; time restrictions on storage; and safety, security, and fire protection inspection requirements. FLW Arms Room License will be used to satisfy this requirement.

g. Because containerization and packing are considerations in determining a munitions HD, munitions are stored in their original container with original packaging (otherwise an explosives safety site plan is required). However, arms rooms that support guard forces or MP may have one outer pack of each caliber of small arms ammunition open for use.

h. Munitions must be stored IAW storage compatibility requirements and the appropriate fire/chemical hazard symbols must be properly posted.

i. The use of metal storage containers or cabinets is required and ammunition must be stored under the same criteria as it would in an approved ammunition storage facility, (for example, no combustibles, solvents, petroleum products, or radioactive items in the vicinity of the ammunition).

j. When storage in an AHA or ASP would adversely impact operations or result in an unnecessary commitment of resources (for example, require unit personnel to provide 24-hour security or extended travel) and storage in an arms room is necessary, the following time limitations on such storage apply:

(1) Reserve Component and Reserve Officer Training Corps (ROTC) units that are conducting weapons qualification during inactive duty training may, when required and under the conditions stated above, store limited quantities of HD 1.4S munitions inside an arms room for a limited period of time not to exceed 90 days.

(2) Active Component units that are not located in the region of an approved ammunition storage facility (such as ASP or AHA) may, when required and under the conditions stated above, store limited quantities (such as the amount required to support their immediate training needs) of HD 1.2.2 and HD 1.3 munitions inside an arms room for a limited period of time not to exceed 7 days per training period. Only limited quantities of HD 1.4S not to exceed 90 days.

(3) Active Component units that are located in the region of an approved ammunition storage facility may, when required and under the conditions stated above, store limited quantities (such as the amount required to support their immediate training needs) of HD 1.4S munitions inside an arms room for a period not to exceed 30 days.

22-5. Transportation of A&E

a. Questions concerning ammunition transportation can be referred to the FLW QASAS at DSN 596-0832.

b. Organizations will observe special requirements for transportation of A&E as specified in DA Pam 385-64; DoD 4500.9-R, part II; DOT regulations; and other applicable Army, Federal, state, and local regulations concerning mechanical condition, refueling, placards, and marking of vehicles.

c. Personnel Requirements.

(1) Vehicles transporting A&E should use best practices of having two drivers while transporting on FLW.

(2) Drivers must have a valid state driver's license. Any state is acceptable.

(3) All operators must be trained, tested, and licensed IAW AR 600-55. OF 346 for the type vehicle being used for transport. Civilian operators must have a hazardous materials endorsement on their commercial driver's license (CDL).

(4) Military and DA/DOD drivers must have proof of hazardous material (HAZMAT) training annotated on the OF 346, DA Form 348, or CDL with completion date.

(5) Military personnel assigned to FLW must have the Accident Avoidance course and all applicable ammo handlers training with the endorsement from the ASP SME and annotated on the FLW Form 570-6. This course is also recommended for external agencies. Personnel can request this course through the Ammunition Manager's Office at DSN: 581-5599 or commercial: 596-5599.

(6) Personnel will not ride in the cargo area of vehicles transporting A&E.

d. Explosives/Ammunition Handling/Packing Requirements.

(1) Ammunition cannot be transported outside of an approved shipping and storage containers. Ammunition must be repacked to an as-issued configuration prior to movement. Packaging and packing materials will be the responsibility of the units. Additional packaging and packing material may be requested from the ASP 596-5599.

(2) Ammunition with lost or destroyed inner packaging will at minimum transported in packages lined on all sides, including bottom and cover, with cardboard IAW approved special packing instructions.

(3) Packages must include lids or covers allowing for positive restraint of contents and must be kept closed and secured during transportation. Container lids must be secured to prevent pilferage/

accidental release of contents. Anti-pilferage seals (NSN 5340-00-081-3381) and plastic ties (NSN 5975-00-984-6582) may be used to secure boxes and cans during transport. Any packing tape can be used to secure ammunition originating from cardboard outer packs. Wooden boxes that are not securable by wires or hinges with hasps will be nailed shut.

e. Vehicles transporting A&E will be fueled and inspected for satisfactory condition prior to loading A&E. The ASP external SOP and DD Form 626 will be used to inspect vehicles for satisfactory condition.

f. Vehicles transporting A&E will be equipped with two 10BC fire extinguishers even if transporting residue only. Water fire extinguishers are not authorized for ammunition with HC or TH3 chemical components.

g. Each vehicle must have three emergency warning triangles.

h. Vehicles transporting A&E must be placarded for the highest hazard explosive being transported, to include small arms. Units will provide placards.

i. Vehicles transporting A&E must have a copy of Part 397 of 49 CFR, the applicable Emergency Response Guide, and a DD Form 836 if transporting ammunition off post without a bill of lading. These items can be provided by the ASP.

j. A&E will be protected by an enclosed cargo area or with side stakes and tarpaulin or canvas top. Tarps/canvas shall be secured by ropes or tie-downs.

k. A&E will not be carried in the passenger compartment of vehicles. This does not apply to operational loads for law enforcement vehicles or EOD vehicles when on mission.

l. The cargo space carrying A&E will be clean and free from exposed bolts, nuts, screws, nails, or inwardly projecting parts that could damage the load. Cargo floors shall be inspected to ensure they are tight and free from holes. Floors shall not be permeated with oil or other substances.

m. Total weight of load cannot exceed rated capacity of vehicle. Weight should be distributed to minimize impact on vehicle performance.

n. A&E will be blocked and braced or secured with suitable tie-down straps. Only approved web straps will be used (for example, NSN 1670-00-725-1437 or NSN 5340-00-980-9277).

o. Items loaded must be compatible as defined by 49 CFR Subpart C, 177.878. Trailers are considered separate vehicles and do not need to be compatible with the tow vehicle. Compatibility extends to all hazardous materials; i.e. for example, meals, ready-to-eat (MREs) with flameless ration heaters are considered in hazard class 4.3 (Dangerous When Wet) and would require segregation.

p. A&E will not be transported onto the main post of FLW except in support of operational readiness exercises.

q. Munitions will not be carried in passenger-type vehicles except for limited quantities IAW DA Pam 385-64 and 49 CFR Subpart E, 177.870.

r. Other materials to include residue must be clearly segregated and secured from ammunition to prevent co-mingling of live and residue.

22-6. Licensing for transportation of A&E

a. Civilian operators must have a hazardous materials endorsement to their CDL**.** Military operators must be trained, tested, and licensed IAW AR 600-55.

b. All operators must complete both the HAZMAT Familiarization and Transportation Course (AMMO-67-DL) and Introduction to Ammunition. (AMMO-45-DL)

c. Minimum specialized training for military operators will include training in the following:

(1) Definition of HAZMAT.

(2) Placard requirements.

(3) Handling (loading and unloading) HAZMAT.

(4) Regulations and procedures pertaining to transport of HAZMAT.

(5) Operation of emergency equipment, to include fire extinguishers.

(6) Forms and records.

(7) Blocking and bracing.

(8) Emergency response procedures.

(9) Vehicle parking rules.

(10) Route selection.

22-7. Training requirements

a. All personnel (supervisory and nonsupervisory) who operate, handle, transport, maintain, load, or dispose of explosives must receive initial explosive safety training before performing any of those tasks.

b. The training requirements outlined in this chapter are general in nature. Some personnel will require further training leading to certification.

c. All personnel who use or transport A&E will receive the following minimum training:

(1) Local familiarization and job site orientation.

(2) SOP specific to FLW.

(3) Hazard control training.

(4) Definition of MMR.

(5) Handling of UXO.

(6) Improper disposal of munitions.

(7) Penalties.

(8) How the MMR affects units.

(9) FLW Amnesty Program.

d. Personnel with primary military and civilian occupational specialties and those personnel transporting ammunition in support of FLW range operations involving A&E must receive the required training as outlined in DA Pam 385-64, and this publication.

22-8. Lightning protection systems (LPS)

a. The FLW Garrison is required to test ASP LPS annually.

b. Personnel who will perform LPS inspections and testing will be trained in the electrical aspects of LPS IAW DA Pam 385-64 and NFPA 780.

c. The minimum standard will be completion of AMMO 28, Electrical Explosives Safety for Army Facilities.

22-9. Certification boards

a. A training and certification program is required for personnel involved in ammunition operations and planning. This establishes the minimum requirements to ensure that only trained and certified personnel are permitted to participate in operations involving A&E and increases the munitions safety awareness, technical knowledge, and operational proficiency of covered employees.

b. This applies to personnel involved in munitions planning and operations. This includes DA employees (permanent and temporary), contractors, and military personnel and is applicable to personnel working for, or in, the FLW ASP.

c. Certification by this regulation does not supplant basic job requirements established by the Office of Personnel Management (OPM), DA, or statutes. Nor does this regulation supersede or otherwise affect training programs required by other regulations in areas of job orientation, safety, SOPs, or basic work principles provided to all employees. This document certifies personnel working with munitions received the required training or experience to work in a safe and professional manner.

d. Except as outlined below, no individual covered by this regulation will work with, or handle, any A&E until successfully completing the requirements for certification. Employees pending certification may work with or handle A&E if all of the following criteria have been met:

(1) All mandatory self-paced courses have been successfully completed.

(2) Employee has confirmed slots and temporary duty travel approval for all other mandatory courses.

(3) Employee works under close supervision of certified personnel.

(4) Employee fulfills any other certification board requirements.

e. Employees who are certified through career program training are exempt from the provisions of this section. Examples are members of the Ammunition Management Career program and the QASAS career program. However, it is recommended that personnel in these career programs keep abreast of policy changes and train accordingly to maintain proficiency.

f. Employees failing to successfully complete mandatory training will be reassigned to positions or duties not directly related to or involving A&E receipt, issue, storage, transportation, and surveillance.

g. Military personnel assigned to a specific one-time, short-term project or bona fide emergency/operational emergency and while working under close supervision of certified personnel do not require certification. Military personnel working within their MOS (89B) do not require certification in those areas already covered by their MOS.

h. The FLW Garrison is required to ensure all covered employees receive formal training as outlined in this section.

i. The Garrison CDR serves as the certifying official (or appoints, in writing, an appropriate designee), to establish an installation certification board, and acts on the recommendations of the board. In lieu of convening the board, the certifying official may choose to route all actions/recommendations through the board members. A unanimous decision would be required to affect change.

j. Certification board procedures include but are not limited to board authority and responsibility, training requirements, granting, revoking certification and records maintenance, and—

(1) In conjunction with supervisors, identifying positions requiring certification.

(2) Recommending qualified personnel to the certifying official for certification or recommend revoking certification

(3) Ensuring that copies of all applicable actions are maintained in appropriate records. The board will decide where and by whom the records will be maintained.

k. Managers and supervisors with an A&E mission will review the records of certified employees and recommend refresher or additional training in order for these personnel to maintain certification.

l. Managers and supervisors with an A&E mission will notify the certification board of disciplinary actions, poor performance, or other actions that could adversely influence an individual's ability to work safely. Recommend revoking certification status of employees who fail to meet qualifications and requirements.

22-10. Training records and certificates

a. Supervisors will record each individual's training and certification. Records must be current and available for review.

b. DA Form 87 may be used, in addition to DD Form 1556 (Request, Authorization, Agreement, Certification of Training and Reimbursement), to recognize and document certification. This certificate should be presented to the recipient at an appropriate ceremony to acknowledge the individual achievement and importance of the program.

c. Persons who successfully certify will be issued a wallet card from the FLW Garrison attesting to their certification. This card will be carried at all times while working with and around explosives.

22-11. Certification requirements

a. Employees in positions who work with A&E, shall be certified. Certification is based on training, experience in munitions, satisfactory job performance, and approval by the certification official. **(NOTE:**

Additional positions may be identified for inclusion at the discretion of the local certification board, based upon duties performed).

b. See DA Pam 385-64, Table 1-1 for the minimum requirements for certification.

22-12. Site plans

a. MSO will review all requests for ammunition site plans.

b. Ammunition site and general construction plans will be submitted for review before beginning final engineering design of new construction or major modification of existing facilities for explosives.

c. MSO, in conjunction with DPW Master Planner and QASAS identifies requirements for proposed site plans.

d. The QASAS prepares the submission data (Range Operations Officer for ranges); following the policy guidance contained in DA Pam 385-64, DA Pam 385-65 and TRADOC Reg 385-2.

e. MSO, after review, forwards the completed package to the CG for approval and signature prior to submission to the TRADOC Safety Office.

22-13. Site plan requirements

a. The following A&E area of operation requires safety site plans:

(1) Range support facilities (such as AHAs, storage pads, resupply points, ammunition transfer points, loading docks, burn pads, and handling areas) that are designed, constructed, and used for recurring ammunition operations and that are located on or near ranges that require ammunition explosives safety plans. (except 1.4S)

(2) Areas used repeatedly for tactical field training in ammunition support operations (such as a grid square within a range) used for training units in the establishment of field ammunition supply points (FASPs), forward operating bases (FOBs), or tactical training bases (TTBs) require an explosives safety site plan.

(3) Locations that are used for training EOD personnel, combat engineers, and other ammunition technicians in the destruction or treatment of A&E require an explosives safety site plan.

(4) All ranges permitted by federal or state environmental protection agencies for treatment of explosives require an explosives safety site plan, regardless of other uses.

(5) All unit arms rooms that store ammunition for other than training requirements.

b. The following sites and operations do not need to submit safety site plans:

(1) Temporary and emergency facilities to be located in areas in which the Army is in danger of actually engaging in combat operations.

(2) Modification or rehabilitation of existing facilities necessary to support an emergency requirement for a limited time or adaptation of a line to other items, if additional hazards are not introduced or the facilities designed net explosive capacity is not increased.

22-14. Certificates of risk acceptance (CORA)

a. All requests for CORA or exemption are submitted, IAW DA Pam 385-64 and/or DA Pam 385-30 through the MSO for appropriate actions.

b. CORAs or exemptions are requested only after every effort has been made to eliminate the nonstandard condition.

c. The MSO DIR will consider the following when conducting a CORAs or exemptions action:

(1) CORAs or exemptions are granted for specific situations and are applicable only to the hazards and exposures specified in the request and related correspondence.

(2) CORAs or exemptions apply only to the operations, locations, or conditions specifically mentioned in the basic request, enclosures, and endorsements. CORAs or exemptions may be modified or made subject to specific restrictions or limiting conditions, incidental to review and approval action. Failure to comply fully with these restrictions automatically cancels the CORAs or exemptions. Any incidents arising from operations, or conditions covered by the CORAs or exemptions, automatically cancels the waiver.

(3) A CORA or exemption is not processed unless it is absolutely necessary and has a significant effect on the unit's mission, and there is a date, not more than 5 years, after which the CORA or exemption condition will no longer exist.

22-15. Exemptions

Exemption requests must include detailed information on the hazards involved in the operation. A hazard analysis must describe expected casualties and property losses on a worst-case basis.

22-16. Waivers

Waivers are no longer authorized and are replaced with CORAs or exemptions.

Chapter 23
RADIATION SAFETY PROGRAM

23-1. General

This regulation establishes policies procedures and responsibilities for ionizing and non-ionizing radiation safety program (RSP). It covers safe handling, receipt, maintenance, storage, transportation, control and use of both ionizing and non-ionizing radiation sources.

23-2. Responsibilities.

The CG is the overall responsibility for this program. Staff and other responsibilities are as follows:

a. FLW DOL will assign qualified personnel (on appointment memorandum) as the Fort Leonard Wood Radiological Safety Officer (FLWRSO) and alternate radiological safety officer (ARSO). These individuals will perform the primary duty as supervisors of the ionizing and non-ionizing RSP.

b. The FLWRSO will—

(1) Establish a formal RSP which is consistent with applicable regulations.

(2) Administer and manage the RSP.

(3) Provide appropriate monitoring equipment, supplies, and facilities to effectively manage the FLW ionizing and non-ionizing RSP.

(4) Enforce procedure prescribed by the Nuclear Regulatory Commission (NRC), Department of Transportation (DOT) and DA for safe use, handling, receipt, storage, transportation, packaging and disposal of radioactive material, devices, and waste.

(5) The FLWRSO will IAW AR 40-5, AR 385-10, and DA Pam 385-24, initiate, implement, and supervise the Ionizing RSP.

(6) IAW AR 40-5 and applicable TBs, initiate, implement, and supervise the non-ionizing radiation program (NRP).

(7) Accomplish the following specific (but not limited to) duties:

(a) Keep the commander and SOHAC advised to all ionizing and non-ionizing related matters.

(b) Recommend appropriate corrective actions as applicable.

(8) Implement a RSP. The objective of this action would be to reduce radiation exposures to a level as low as is reasonably achievable (ALARA) within the occupational dose limits as set by the NRC and ARs.

(9) Provide guidance to create safe radiation working conditions.

(10) Assure that operating procedures comply with current standards, pertinent regulations, and directives.

(11) Maintain—

(a) Radiation program files IAW AR 25-400-2.

(b) A current inventory of ionizing and non-ionizing radiation sources, devices, materials, instruments, equipment and radioactive waste.

(c) The ionizing radiation inventory which will consist of licensed material/instruments of activity quantities which exceed the level as specified in the 10 CFR 30.71.

(d) The non-ionizing radiation equipment inventory which will consist of equipment having the capability of exceeding the radiation power levels as specified in TB MED 523.

(e) An inventory of radioactive equipment used by the EOD unit.

(12) Process and clear the transfer, disposal, and transportation of individually controlled sources (ICS). This is done only with the approval of the RSO at TRADOC and the Army major command (MACOM)-major subordinate command (MSC) that controls the license of that source.

(13) Dispose of leaking sources IAW specified disposition instructions from the Army MACOM-MSC that controls the radioactive source.

(14) Take action to remove ICS when qualified RSO, trained operators, or custodians are not available in a unit that uses or assigns ICS.

(15) Report radiation incidents which meet the criteria of AR 385-40; 10 CFR, Parts 19, 20, 21, or 49 CFR 171.15. The report will be submitted to HQ, TRADOC, and to other HQ as indicated in the above references. Locally report all radiation releases to the FLW Fire Department and the Directorate of Environmental Compliance and Management (DECAM).

(16) Review the qualification of unit RSOs who have been appointed by commanders.

(17) Provide guidance for the receipt, storage, use, transfer, packaging, transportation, and disposal of radioactive materials/equipment, in addition to the safe use of potentially hazardous non-ionizing radiation equipment.

(18) Provide a listing of the types, quantities, type hazard, activity, locations, and POC of radioactive material/instruments to the FLW Fire Department, and FLW Provost Marshal.

(19) Furnish a copy of the appoint memorandum of the FLWRSO to HQ, TRADOC.

(20) Prepare/review all correspondence pertaining to the RSP. Units initiating correspondence on radiation-related matters will route their requests, advice, comments, etc., through the FLWRSO for necessary action.

(21) Keep the commander informed on all radiation matters within the installation. Correspondence will be routed through FLWRSO (IMNE-LNW-LGM).

(22) Ensure that radiation safety policies are provided to personnel concerned; forwarding from MSO.

(23) All foreign equipment and material will be reported to the Installation Radiation Safety Officer and surveyed for radioactive material.

(24) Survey all incoming and outgoing radioactive shipment packages IAW DA Pam 385-24, NRC License, applicable TBs and TMs. Incoming surveys not required IAW 10 CFR 20.1906 if less than Type A quantities, special form or gas. All movements of radioactive materials/instruments from the installation by commercial means will be certified by the FLWRSO. MEDDAC and USACBRNS will perform their own incoming and outgoing radioactive shipment packages surveys.

(25) The results of the radiation survey, wipe test, calculations, isotope activity, and other pertinent information required by 49 CFR, will be documented on FLW Form 851-R (Radioactive Material Movement) (see appendix Q).

(26) All instructions on FLW Form 851-R will be met by activities concerned prior to the shipment. All movement of radioactive materials/instruments from the installation by military conveyance for the purpose of maneuvers will be processed IAW the instruction in chapter 5.

(27) Conduct semiannual radiation surveys to evaluate and document radiation hazards and other relevant data to specific operations involving receipt, handling, storage, use, maintenance, disposal or loss of control of radioactive materials. Violations will be reported IAW current regulations.

(a) Conduct quarterly radiation health physics surveys of radioactive waste storage at DOL Maintenance Complex, building 5265, and Central Turn-In Facility in supply.

(b) Conduct quarterly wipe tests for tritium (H-3) at radioactive waste storage, the optic repair room at DOL Maintenance Complex, building 5265, and Central Turn-in Facility in supply.

(28) Establish radiation areas and high radiation areas where warranted.

(29) Advise all units/activities on radiation posting requirements IAW DA Pam 385-24, and NRC license.

(30) Ensure the proper collection, storage, segregation, packaging, documentation and shipment of radioactive waste IAW specific disposal instructions received from HQ, Operation Support Command (OSC), and applicable regulations. For detailed instructions, see chapter 7.

(31) Any deviations from mandatory requirements will require written authority. A copy of the deviation will be forwarded to the FLWRSO, and HQ TRADOC.

(32) Remain—

(a) Proficient in the operation and use of radiation monitoring instruments necessary to conduct an effective RSP.

(b) Current on radiation directives and changes that periodically occur. This should be done by attending radiation courses, seminars, and reading applicable regulations.

(33) Maintain this regulation by reviewing its contents and initiating corrective actions where necessary.

(34) The FLWRSO will be notified of the transportation of ICS within the installation support area.

(35) Communicate promptly with the appropriate level of command—

(a) To prevent or halt unsafe radiation practices that represent a serious radiation hazard.

(b) On actions that violate applicable regulations.

(36) Ensure that the FLWRSO radiation monitoring equipment is maintained in a high state of readiness and is calibrated in a timely manner.

c. The DOL Transportation Division will—

(1) Prepare shipping documents/Government Bills of Lading (GBLs) in compliance with 49 CFR 172.200-205, when applicable.

(2) Ensure that shipments of radioactive material/ equipment by commercial means are not authorized, unless a FLW Form 851-R (see appendix Q) has been prepared and released by the FLWRSO.

(3) Notify consignees of pending radioactive shipments when applicable.

(4) Arrange for technical escorts IAW applicable regulations, and NRC license.

(5) Ensure that radioactive materials are only loaded with compatible cargo IAW applicable regulations, and NRC license.

(6) Submit a report of arrival by electronic means to the shipping installation when radioactive shipments are received in excess of quantities listed in 10 CFR 30.71, Schedule B.

(7) In addition to oral briefing, provide personnel engaged in off-post transportation of radioactive material with a completed DD Form 836 (Dangerous Good Shipping Paper/Declaration and Emergency Response Information of Hazardous Materials Transported by Government Vehicles/ Containers/Vessels). This document should be supplemented with written emergency procedures.

d. The DOL/Supply and Services Division will—

(1) Provide the following for radioactive materials, equipment, and radioactive waste storage room.

(a) A turn-in point.

(b) Adequate storage facilities pending disposition instructions.

(2) Request disposition instructions for radioactive material/equipment from appropriate commodity National Inventory Control Point.

(3) Prepare a DD Form 1348-1A (Department of Defense (DOD) Single Line Item Release/Receipt Document), and provide a copy to the FLWRSO for necessary administrative processing of FLW Form 851-R (see appendix Q), certification statement, and other necessary information pertinent to the shipment.

(4) Accomplish packaging IAW 49 CFR, and FLW Form 851-R provided by the FLWRSO.

(5) Ensure that radioactive components are not damaged when loading and unloading radioactive containers.

(6) Perform transportation, packaging, shipments, receiving activity responsibilities, storage areas, and inventory of commodities at supply activities, and control and surveys of storage areas IAW DA Pam 385-24.

(7) Inform the FLWRSO of all incoming/outgoing shipments of ICS as listed in chapter 2. This equipment requires special controls and handling procedures. As a minimum, the documentation will include: NSN, description of equipment, serial number, isotope, activity and equipment quantity, shipment number, mode of shipment, shipped from, shipped to, date of manufacture (if available), and name of manufacturer (if available).

(8) Excess “military-exempt” lasers will be reported to the Defense Reutilization and Marketing Service for utilization screening in accordance with DoD 4160.21-M-1, “Defense Demilitarization Manual”.

e. Commander, MEDDAC will—

(1) Appoint a RSO to provide protection for the MEDDAC's mission area.

(2) Provide for a RSP to all organizations within the MEDDAC IAW AR 385-10, DA Pam 385-24, and other directives as applicable.

(3) Provide medical examinations and surveillance to personnel who are potentially exposed to -

(a) Ionizing radiation (see requirements in AR 385-10, DA Pam 385-24, and DA Pam 40-18).
(b) Non-ionizing radiation (see requirements in AR 385-10, DA Pam 385-24 and TB MED 523).

(4) Provide dosimetry service to those units/activities that have specific support agreements with the MEDDAC for dosimetry service.

f. The DES) will—

(1) Provide procedures for fighting fires involving radioactive materials.

(2) Provide protective clothing and devices to include respirators to radiation emergency fire fighting personnel.

(3) Maintain a current inventory of all ionizing radiation sources and their locations.

g. Commanders, property book officers (PBOs), and accountable property officers will—

(1) Ensure that all ICS for which they are accountable, are stored, handled, and used in authorized areas and operated by trained personnel only.

(2) Notify the FLWRSO of receipt, transfer, and turn-in of items listed at appendix Q. The data submitted will include the complete identification of the equipment IAW para c(7) above.

(3) Ensure that all radioactive material/equipment is inventoried annually. This action must be reported to the FLWRSO IAW AR 385-10, DA Pam 385-24 and reported not later than (NLT) 31 March annually.

(4) Report all ionizing and non-ionizing radiation incidents to the FLWRSO in a timely manner. The FLWRSO is located in the DOL Maintenance Division, building 5265. The Installation Staff Duty Officer (SDO) is to be called for assistance after duty hours.

(5) Store all radioactive materials IAW applicable TMs, NRC license, DA Pams and appropriate ARs.

(6) Maintain accountability of chemical agent detector (M43A1) (detector cell), chemical agent monitor (CAM) (cell module), and the M22 alarm chemical agent detector automatic (ACADA) (cell module), at all times. The applicable transactions will be reported IAW AR 710-3 to the DOL management section.

(7) Turn-in radioactive material/equipment and dispose of radioactive waste IAW this and appropriate ARs.

(8) Comply with instructions for movement of radioactive material/equipment for maneuvers as specified in chapter 5.

(9) Post warning signs on both ionizing and non-ionizing radiation sources when required.

(10) Ensure that equipment containing unserviceable radioactive materials or that has been in an accident, fire, or damaged in any way, is handled as follows:

(a) Using disposable gloves.

(b) Placed in a plastic bag.

(c) Promptly shipped in a fiberboard box with all seams taped, to the unit's maintenance support for specific item. (For detailed guidance in handling and transporting radioactive materials/equipment, see chapters 2 and 6.)

h. MICC will notify non-Army agencies (for example, contractors who want to use radioactive materials on Army property) of the requirements:

(1) AR 385-10 and DA Pam 385-24, to acquire an Army permit.

(2) To restore Army property to NRC unrestricted use criteria. (This will be made a part of the contract or lease by the MICC IAW AR 385-10 and DA Pam 385-24.)

i. Radiation workers will—

(1) Keep abreast and follow SOPs, rules, and special instructions.

(2) Use safety and monitoring equipment properly.

(3) Report to supervisor, any accident, unusual incident, personal injury (however slight), suspected overexposure, and suspected internal exposures, as soon after occurrence as possible.

j. Commanders and directors will—

(1) Ensure qualified personnel are designated on appointment memorandum as CBRN NCO and ARSO in units and installation activities that handle radioactive material. Compasses and watches not required ARSO.

(2) Ensure that copies of appointment memorandum are forwarded to the FLWRSO (IMNE-LNW-LGM (RSO)), Fort Leonard Wood, MO 65473-5000.

(3) Ensure adequate resources are provided for training of personnel.

23-3. Interpretation

Nothing in this regulation will be interpreted to negate or supersede any requirement of the following: NRC, DOT, ARs, or DA Pams pertaining to ionizing and non-ionizing radiation policies.

a. Guidance provided in this regulation implements the following documents on Army policies, procedures, and standards for protection of personnel from exposure to ionizing and non-ionizing radiation sources:

(1) Applicable CFRs.

(2) ARs.

(3) DA Pams.

(4) TMs.

(5) TBs.

b. The policies, procedures, and standards for the protection of personnel for radiation health purposes are applicable to both ionizing and non-ionizing radiation sources, and include—

(1) Radioactive source materials, devices, instrument and components.

(2) Industrial heating, radio frequency (RF), and communication systems.

(3) Laser radiation systems (light amplification by stimulated emission of radiation), and high intensity optical sources.

c. Definitions. Definitions applicable to these regulations are found in the CFR, Titles 10, 29, 39, and 49; AR 40-5, AR 385-10, DA Pam 385-24, TB MED 521 and TB MED 523. This command is committed to the operating philosophy of maintaining occupational radiation exposure ALARA.

d. RSP Administrative Procedures. Procedures for administration of the RSP are specified in CFR, Titles 10, 29, 39, and 49, AR 40-5, AR 385-10, DA Pam 385-24 and NRC licenses.

e. In the event of misinterpretations or conflicting instructions, the most stringent requirements will be enforced.

f. These procedures will be reviewed and updated as required to ensure compliance with stated regulations/directives.

23-4 Control of ionizing radiation sources

Control Procedures: Most radioactive items or equipment, in the U.S. Army, are safe when published usage instructions are followed. A listing of individually controlled items and controlled items is in appendix Q. Nevertheless, these items may become damaged, taken apart, stored in large quantities, contaminated, or used improperly by untrained personnel thus creating a potential hazard. The following control procedures are primarily designed for individually controlled and controlled radioactive items. This may also be applied to other radioactive equipment as indicated. The following information/transactions will be reported to the MSO, FLWRSO, and CBRN School Health Physics for proper coordination, guidance, and action (as may be required) to ensure for the safety of all concerned.

a. Information/Transactions.

(1) Request for and receipts of radioactive commodities in the DOD supply systems must meet the requirements of DA Pam 385-24 before a unit is allowed possession of the equipment.

(2) Transfer of radioactive material controlled items. The FLWRSO must be informed of the intent in order that proper radioactive movement documentation, survey, wipe test, packaging and other requirements are met prior to the transportation of the equipment.

(3) Qualifications of personnel operating AN/UDM-2 calibrator, AN/UDM-6 calibrator, and MC-1 asphalt and soil density gauge. Only qualified and certified RSOs, LRSOs, custodians, and operators are authorized to operate this equipment. They must be certified by completing an appropriate course. Upon completion of course, a copy of certification will be forwarded to the FLWRSO.

(4) Annual Inventory of all ionizing radioactive materials/equipment. This inventory is required annually IAW DA Pam 385-24. It will be submitted in the following format to IMNE-LNW-LGM (RSO), NLT 31 March of each year. Serial numbers will be required on items listed in appendix Q.

- Organization
- Nomenclature
- NSN

- Quantity
- Building number
- POC
- Date of Inventory

(5) Losses of Radioactive Materials/Equipment. A loss of any radioactive material/equipment will be reported immediately to the FLWRSO. Depending on the isotope and quantity of activity, it may become a significant hazard if allowed to get into the possession of unauthorized and untrained personnel.

(6) Excess. Radioactive material/equipment may only be disposed of through normal supply channels after coding.

(7) Disposal of Serviceable/Unserviceable Radioactive Material/Equipment. Under no circumstances may radioactive material/equipment be disposed of in trash cans or trash dumpsters. All radioactive materials/equipment, regardless of serviceability, will be turned in through supply channels for eventual transfer to an authorized facility.

(8) Transportation. The transportation of radioactive materials will be transported in compliance with the requirements of 49 CFR, DA Pam 385-24, NRC license and this regulation.

(9) Accidents. Any accident, fire, or overexposure of personnel with these sources, will be reported, without delay to the FLWRSO. See paragraph 23-22 of this chapter for additional guidance on radiological emergency procedures.

b. Activities requiring radioactive materials will be in compliance with the NRC license and applicable TMs that enough safety equipment, facilities, and trained personnel are available for the safe handling, use, and storage of this equipment. If at any time these standards cannot be met, notify the FLWRSO immediately so that corrective measures may be taken to safeguard these sources.

23-5. Transportation procedures

a. Most of the above equipment requires special handling when transported off the installation. The following procedures will be adhered to prior to transporting this equipment off the installation by commercial means.

(1) The FLWRSO will be notified of impending movement or shipment.

(2) Item will be packed and cushioned in an appropriate type of container and sealed.

(3) A FLW Form 851-R (see appendix Q) will be prepared by the FLWRSO.

(4) A survey will be conducted by the FLWRSO to determine radiation levels and transportation index if applicable.

(5) Two appropriate radiation level labels will be affixed to opposite sides of the outer shipping container when required.

(6) A wipe test will be performed IAW Title 49 CFR 173.443 on the surface of the shipping container to determine if contamination exists. This is not to be confused with a radiation leak test, which is performed to determine if a source is leaking.

(7) Unless otherwise informed by the FLWRSO, these items require specific packaging, shipping paper, certification, markings, and labeling IAW Title 49 CFR.

b. There are instances when the U.S. Army must expedite the movement of equipment containing radioactive sources in order to accomplish the assigned mission in a timely manner. U.S. Army is authorized to deviate from the procedures in paragraph 23-7 above under the circumstances of when movements are for the purpose of national security or an emergency, refer to Title 49 CFR 173.7.

c. Calibration activities test, measurement, and diagnostic equipment (TMDE) may transport their calibration radioactive sources provided the following procedures are complied with:

(1) An RSO is appointed to supervise the movement.

(2) Calibration radioactive sources must be transported in an enclosed military van/vehicle.

(3) The appropriate movement form FLW Form 851-R or FLW Form 846-R (Radiation Material Movement Form (Maneuver Only)) will accompany the shipment. See appendix Q.

(4) The movement is conducted IAW 49 CFR, part 192 and 173.

(5) The FLWRSO will be notified of date of impending shipment and given a copy of applicable form for individually controlled items.

(6) For the transportation of customers' radioactive materials/equipment, the calibration facility must comply with Title 49 CFR.

d. For the transport of radioactive materials/equipment by commercial means, see Title 49 CFR 100 to 177.

e. The installation may be cited with a serious violation if these instructions are not adhered to, therefore, no deviations are authorized unless approved by the commander.

23-6. Controlled items

a. The destruction or loss of all items in appendix Q, will be reported immediately to the FLWRSO.

b. The handling, storage, transfer, use, and disposal of all items in appendix Q, will be monitored by the FLWRSO. These functions will comply with the requirements of DA Pam 385-24 and appropriate NRC regulations.

c. An inventory, by serial number, is required annually on the items listed in appendix Q. The results will be combined with the semiannual inventory of radioactive materials report and forwarded to IMNE-LNW-LGM (RSO), Fort Leonard Wood, MO. 65473-5000.

d. A leak test must be IAW the NRC license and TB 43-180. The test will be performed by qualified personnel as requested by the licensee of the end item.

e. The items listed in appendix Q are extremely dangerous under the wrong circumstances and may present hazardous conditions, unsatisfactory radiation exposures, and contamination of personnel when handled improperly. Therefore, all users of these items will follow the instructions in applicable TM and NRC License. If there are any questions, contact the FLWRSO immediately.

23-7. Accountability and control of radioactive materials

a. The handling and use of equipment containing radioactive materials demand that special procedures be observed due to potential ionizing radiation hazards, or the radio toxicity of the isotope installed in the equipment, or both. The license for the equipment will stipulate the procedures to be observed in order to provide for your safety and to satisfy the NRC requirements for a license. In order to be in compliance and prevent violations from occurring, all personnel must adhere to the instructions in the M43A1 chemical agent detector, M22 ACADA, CAM, improved chemical agent monitor (ICAM), TM, NRC license, and AR 710-3.

b. In order to ensure the safety of everyone concerned, all units, maintenance activities, and personnel will adhere to the instructions in the references of paragraph 23-9a above and the following:

(1) The M43A1, CAM, and ICAM Cell Module are tracked by serial number, IAW AR 710-3, by the licenses. The local Radiation Testing and Tracking System is managed by the DOL material management section.

(2) The M43A1, CAM, and ICAM cell module leak testing are only required when maintenance is performed, specifically when the cell modules is replaced.

(3) The M22 ACADA annual leak testing is only required when depot level maintenance is performed, specifically when the cell module is replaced.

(4) Users/operators will be trained IAW the instructions in the applicable TM as a minimum. Available videos at Training Support Center (TSC) may be used for this training.

(5) The radioactive materials mentioned must be stored in accordance with the applicable TM, and the licenses.

(6) For transportation or shipment of radioactive materials refer to the TMs, TBs, and the licenses.

(7) Do not eat, drink, smoke, or chew gum or tobacco, or apply cosmetics in the vicinity of any radioactive materials.

(8) Always handle the radioactive materials in accordance with the TM.

(9) In case of an accident or fire with the radioactive materials, refer to chapter 6, Radiological Emergency Procedures, this regulation.

(10) Maintenance personnel must have received a minimum of radiation safety training required IAW the TM, and the license.

(11) Maintenance personnel must follow the applicable TM for maintenance procedures.

(12) An annual inventory to account for detector cell modules is required. The inventory will include the quantity, type of isotope, location of detector cell, serial number of detector and cell module, and date of inventory.

c. Radiation Protection at User Level: If a radioactive material mentioned in appendix Q is involved in an accident, fire or damaged in any way, observe the following procedures:

(1) Notify your CBRN NCO/officer and the FLWRSO immediately. The damaged radioactive materials and surrounding area will be assumed contaminated until proven otherwise. The area of the

accident will be cordoned off, movement of personnel in or out of the area monitored and controlled. If any contamination above background is detected with an appropriate Radiacmeter, it is considered to be leaking and contaminated. Contact the FLWRSO for instructions before proceeding any further. In most instances, an appropriate radiacmeter will not be available. Proceed as follows: Put on disposable plastic gloves, using a shovel place the damaged detector and surrounding debris inside a clear double plastic bag, and place in a fiberboard box with all the seams taped. The damaged radioactive materials will be evacuated to DOL maintenance division. If skin contact is made with any contaminated object, wash immediately with non-abrasive soap and water until such time that zero contamination is noted on skin. All possible precautions must be taken to prevent the ingestion or inhalation of radioactive particles.

(2) In the event of fire, airborne contamination must be considered. The fire should be fought upwind of the fire and fire fighters should wear portable air systems.

(3) Decontamination of accident area will be done under the supervision of the CBRN NCO/officer or the FLWRSO.

(4) For detailed radiological emergency procedures, see chapter 6, this regulation.

d. Radiation protection at maintenance level. Upon receipt of a damaged/unserviceable M43A1 detector, M22 ACADA, CAM, and ICAM observe the following procedures:

(1) The maintenance activity will abide by the procedures delineated in NRC License, TM 3-6665-312-30&P, TM 3-6665-321-12&P, TM 3-6665-331-23&P, and other applicable publications.

(a) The TMDE Support Center, and DOL Maintenance Division must have calibrated active detection equipment.

(b) The TMDE support unit and DOL Maintenance Division must abide by the serial number tracking requirements of AR 710-3, chapter 2, and Asset Transaction Reporting System.

(2) Dispose of all material that may become contaminated, such as, gloves, swipes, and work bench paper, by placing in a clear double plastic bag, label radioactive waste, isotope, and place in a radioactive waste container until it is turned in to the FLWRSO.

(3) Refer to AR 710-3, chapter 4, section II for the accountability and completion of transaction cards at maintenance level.

23-8. Control measures and exposure standards

a. External Exposure: Occupational exposure to ionizing radiation may occur as a result of the individual's employment or duty. Numerous items of military equipment contain radioactive materials; consequently, absorbed radiation doses may be incurred during the handling, procurement, receipt, transfer, shipment, use, storage and/or maintenance of equipment containing radioactive sources. Normally, the radiation levels of U.S. Army equipment containing radioactive materials are low and considered extremely safe for use, provided that the radioactive sources are not damaged, burned or removed when unauthorized.

b. Internal Exposure: When radioactive equipment becomes damaged, it must be assumed that the source is leaking; therefore, the area adjacent to the radioactive source will become contaminated. When this occurs, personnel handling the source may become contaminated and the probability of ingesting the radioactive particles increases. These particles may enter the body through open wounds, nose, mouth and possibly through the skin pores. Once inside the body, the radioactive particles may accumulate in the various critical organs of the body, radiate, and cause cell damage.

c. As can be seen by the above statement, even low levels of radioactive activities and radiation exposures are undesirable and must be controlled at all times. Following the procedures provided in equipment TMs refraining from smoking, eating, and drinking liquids, handling contaminated equipment with surgeon's gloves, washing your hands, monitoring your body and clothing when leaving radiation areas will reduce the probability of contamination and radiation exposure.

23-9. Control measures

Every effort will be made to keep the total radiation dose ALARA. The following procedures, when followed, will ensure your safety and reduce exposures to a minimum:

a. Time: Before entering a radiation area, pre-plan the steps you must accomplish, perform your task and remove yourself from the radiation area. This procedure will drastically reduce the amount of radiation exposure.

b. Distance: When exposing yourself to a radioactive source, maintain the maximum distance possible between you and the source, do your assigned task, and again, increase the distance to the source while you are involved in performing other unrelated procedures.

c. Shielding: There are instances when your duties may require you to handle sources which exceed the adopted exposure standards. In these instances, appropriate shielding must be placed between you and the source to ensure your safety. If in doubt, contact the FLWRSO for advice.

d. Do not eat, drink, smoke, or chew gum or tobacco when handling radioactive materials.

e. Do not touch individually controlled, controlled or suspected leaking/contaminated radioactive sources with your bare hands. Wear protective disposable gloves.

f. Monitor yourself for contamination and wash your hands when leaving a radiation area.

g. Always wear your radiation badge when the probability of radiation exposure exists.

h. Knowledge of Radiation Program: Read the TMs applicable to the radioactive equipment you are to be exposed to. Knowing your equipment will build your confidence and respect for it and assist you in practicing safe habits when working with radioactive equipment.

i. Although there are many steps and procedures that one may practice in order to reduce radiation exposure, the individual must evaluate the necessity for exposure and weigh it against the benefits expected.

23-10. Radiation exposure standards

Radiation exposure standards for the control of occupational exposure to ionizing radiation will be IAW the guidelines established in DA Pam 385-24, 10 CFR 20, and 29 CFR 1910. These levels are the maximum authorized and should never be exceeded, except for life-saving situations when authorized by proper authority. All efforts will be made by everyone concerned to reduce these levels to ALARA.

a. The Total Effective Dose equivalent will not exceeds the limits specified in 10 CFR, part 20.1201 (5 roentgen equivalent mammal [rem]). The sum of the deep dose equivalent and the committed dose equivalent will not exceed the limits specified in 10 CFR part 20.1201 (50 rem). The dose to the lens of the eyes will not exceed the limits specified in 10 CFR 20.1201 (15 rem). The shallow dose to the skin or any extremity will not exceed the limits specified in 10 CFR 20.1201 (50 rem).

b. Persons who are classified as non-radiation workers or minors will not be exposed to a whole body dose IAW the guidelines established in DA Pam 385-24, 10 CFR 20, and 29 CFR 1910.

c. Female employees who are occupationally exposed to ionizing radiation have the responsibility to inform their supervisor when pregnant. Special consideration may be necessary to ensure that her radiation dose levels do not exceed the radiation exposure standards IAW the guidelines established in DA Pam 385-24, 10 CFR 20, and 29 CFR 1910.

d. Any person that knows or believes that he/she has been overexposed, will immediately notify the FLWRSO and medical facilities.

23-11. Emergency situations

Radiation exposure standards adopted for the control of planned occupational exposures, under emergency situations, are as follows:

a. Lifesaving Situations - (to protect injured persons).

(1) Accumulated absorbed dose to the whole body shall not exceed 100 rad.

(2) Accumulated absorbed dose to the hands and forearms shall not exceed 300 rad.

b. Less Urgent Situations (to protect property, control fires, or minimize the release of effluents).

(1) Accumulated absorbed dose to the whole body shall not exceed 25 rad.

(2) Accumulated absorbed dose to the hands and forearms shall not exceed 100 rad.

c. Rescue Personnel.

(1) Rescue personnel must be knowledgeable and informed in the basics of the potential consequences of exposure to ionizing radiation, proper use of radiation protective devices and clothing, and in rescue operations and techniques. These personnel normally receive training in emergency operations by virtue of their assignment in MP units, fire departments, EOD, radioactive material escorts, or specially trained CBRN units.

(2) In the absence of trained rescue personnel, volunteers may be used, provided they are briefed in the proper safety and health procedures to be used in the specific operation before being exposed to a potential radiation hazard. If in doubt, contact your CBRN officer and FLWRSO.

23-12. Radiation exposure for non-occupational workers (general public)

Exposure to these persons will be limited to accumulated dose to the whole body not to exceed amount milliroentgen equivalent man (millirem) IAW the guidelines established in DA Pam 385-24, 10 CFR 20, and 29 CFR 1910 in one calendar year. This excludes natural background radiation, medical and dental exposures. Standards that are less restrictive than those prescribed above may be used only when approved by the Surgeon General.

23-13. Special instructions to radiation workers concerning prenatal radiation exposure

These instructions provide the necessary information to radiation workers, co-workers, and management concerning the risks of pre-natal radiation exposure.

a. DA Pam 385-24, indicates that when a female radiation worker becomes pregnant or believes she is pregnant, it is her responsibility to notify her employer of this fact so that special consideration may be given to ensure that her radiation dose does not exceed the radiation exposure standards.

b. The NRC has established basic radiation exposure limits for all occupationally exposed, and individuals under 18 years of age and the general public per calendar quarter or one-tenth of the occupational limit.

c. A special situation arises when a female occupationally exposed worker becomes pregnant. Therefore, increasing the probability of the unborn child's exposure to radiation as a result of the mother's duties. The NRC has recommended that because the unborn are much more sensitive to radiation than adults, their radiation dose from occupational exposure of the mother should not exceed .5 rem (500 millirem) during the entire gestation period. This applies to the full 9-month pregnancy. Because the risks of undesirable effects are potentially greater for unborn children, the National Council on Radiation Protection and Measurement also stresses the need to keep radiation doses to the fetus ALARA.

d. The unborn child is more sensitive to radiation than an adult because of its rapid rate of development. Cells forming a specific and critical organ are dividing very rapidly and are more susceptible to being mutated by ionizing radiation. The unborn organs for fighting infections and harmful substances are not yet fully developed and are extremely vulnerable. Although, caution must be practiced at all times, it must be emphasized that a very small percentage of birth defects are attributed to radiation exposure in comparison to measles, smoking, alcohol consumption, age, drugs and other factors that might have an effect on birth defects. One in approximately 3,500 birth defects may be attributed to radiation exposure according to the NRC Regulatory Guide 8.13.

e. An expectant mother should know that the first three months of pregnancy are extremely critical, that the unborn baby's radiation exposure will be less than the mother's exposure due to the dose absorbed by the mother's body, and that large doses of radiation can cause birth defects in the unborn. There are several alternatives a mother may wish to consider to reduce the risks of radiation exposure.

(1) Consult with your medical facilities. They can provide additional up-to-date technical information on the risks of radiation exposure.

(2) Seek the guidance of the FLWRSO.

(3) Practice radiation safety at all times and observes the three key works whenever possible: TIME, DISTANCE, and SHIELDING. They are designed to keep your radiation exposure ALARA. See chapter 3 for detailed instructions on control measures and exposure standards.

(4) Do not eat, drink, smoke, or chew gum or tobacco, or applying cosmetics when working around radioactive materials. Open cuts are also extremely vulnerable to absorbing internal radioactive contamination.

(5) Keep in mind that a mother may be exposed to both external and internal radiation which may enter the mother's body and cross into the baby's body.

(6) Consider being temporarily reassigned, delay having children, or discontinue assignment in a radioactive work area.

f. Pregnant women are responsible for informing their supervisors promptly of their pregnancy in order that appropriate measures may be taken to limit the total radiation dosage to the unborn child. Reassignment shall entail no loss of job security or economic penalty to the radiation worker.

23-14. Radiation badge program

The above instructions will be presented to applicable personnel in the Radiation Badge Program. A written copy will also be made available to occupationally exposed women, in addition to a copy of NRC Regulatory Guide 8.13. A copy of the annual summery of the automated dosimetry records (ADRs) maintained permanently in the individuals' medical file.

23-15. Movement of military equipment containing radioactive materials (maneuver only) instructions

The Army is exempted from labeling requirements of 49 CFR 172 and 173 under 49 CFR 172.400a provided the radioactive material is loaded and unloaded under DoD personnel supervision and is escorted by DoD personnel during transit.

a. Ensures that units are familiar with the types and hazards associated with radioactive materials to include proper reaction in the event of fire or accident.

b. Keeps the FLWRSO informed of the whereabouts of radioactive materials so that in case of an accident, the FLWRSO can react and provide appropriate guidance and assistance as may be required.

c. Expedites the movement of equipment during training exercises/maneuvers.

23-16. Procedures

This exemption is applicable provided the following procedures are adhered to:

a. Appropriate personnel must accompany the radioactive material/equipment during the movement. These persons may be Active Duty, Reserve, National Guard, or DA civilians.

b. Military radioactive equipment, which is consigned, is not exempted except for rail shipments of radioactive equipment if properly escorted by above personnel.

c. Accompanying personnel will be familiar with the types of radioactive materials being transported.

d. They will be familiar with the associated hazards and emergency procedures to be followed in case of an incident or fire.

e. An inventory of equipment containing radioactive material will be performed by the unit and documented on FLW Form 846-R. See appendix Q.

f. A visual inspection of the radioactive materials/ equipment will be conducted by unit personnel and documented in FLW Form 846-R, item 4 by the unit's radiation safety personnel. The visual inspection is to ensure that damaged and potentially contaminated radioactive equipment is removed from use and turned into support prior to the unit departing from the installation or maneuver area.

g. A properly documented FLW Form 846-R will be initiated and distributed by the unit to the FLWRSO and Transportation Officer, DOL prior to departing the installation on maneuvers.

23-17. Administration of policy

In order to ensure that the above procedures are complied with, each unit will adhere to the following instructions:

a. Ensure there is an assigned responsible individual at the designation site to ensure the policies and procedures are followed.

b. The units will order the FLW Form 846-R through the installation's publication channels. This form is to be completed as follows:

(1) The date, shipment number, paragraphs 23-19(3) and (5) will be completed immediately after being notified of an impending field exercise.

(2) FLW Form 846-R, item five requires an inventory of equipment containing radioactive materials by each company/battery size unit. In order to prevent any future delays, the inventory will be conducted, posted, and kept current at all times by filling out all columns permanently except for the quantity column. The quantity column will be filled out only after an exercise is announced and the total quantity to be transported off the installation by unit has been determined.

(3) The initial inventory of radioactive material may be time consuming; therefore, the following sources of information will assist you in determining what equipment is radioactive:

(a) An inventory of radioactive materials is conducted and reported by your unit annually, therefore, the information you require should be available in your unit's supply channels.

(b) TB 43-0116 lists all equipment in the Army inventory containing radioactive materials except for medical or nuclear weapons.

(c) To ensure that all possible radioactive equipment has been identified, check all the NSNs of your property book. If the Special Control Item Code (SCIC) column indicates an 8, or any of the following letters: A, B, F, G, H, K, S, T, U, W, X, it is radioactive.

(4) Visual Inspections.

(a) The visual inspection of radioactive equipment will be performed at times specified and documented in item four of the FLW Form 846-R by the unit RSO affixing his signature and date in appropriate line. The unit RSO may utilize other key personnel to expedite and assist on the visual inspection. The objective of the visual inspection is to ensure to the commander that unserviceable, damaged, or potentially leaking or contaminated sources are identified and turned into maintenance support prior to transporting this equipment on public highways. Small and numerous items of equipment, such as wrist watches and compasses may be inspected when being turned in for storage within the unit's storage facility. These items may be assumed to be serviceable as long as they remain secured in storage, thus, no delays should be encountered in the visual inspection of these large quantities of equipment. Radioactive equipment which remains in a packaged condition during an exercise will not be opened for the sake of verifying its status during the visual inspection unless the package has been opened or damaged in transit.

(b) When the visual inspection and loading of radioactive equipment has been completed, the unit RSO’s will spot check for proper storage of sensitive radioactive equipment, which could easily become damaged during transit, and complete FLW Form 846-R, item four. The unit RSO will then notify his unit commander to verify its contents.

(5) The unit commander will sign the signature block of FLW Form 846-R after verifying its information.

(6) The unit's representative will distribute FLW Form 846-R as follows:

(a) One copy to the FLWRSO.

(b) One copy to the DOL Installation Transportation Officer.

(c) One copy to accompany the unit throughout the exercise.

(7) As the exercise progresses, the unit RSO will complete part of FLW Form 846-R at times designated. Upon completion of the exercise and return to the installation, the units completed FLW Form 846-R will be forwarded to the FLWRSO.

23-18. Radiation safety

Radiation safety is of the utmost importance to the U.S. Army and its personnel who handle radioactive materials/devices. As a minimum, the following procedures will be observed at all times.

a. Radioactive sources will never be handled with bare hands. This applies to controlled sources and leaking/contaminated radioactive equipment.

b. Eating, drinking, smoking, and chewing gum or tobacco or applying cosmetics are prohibited while handling radioactive materials.

c. Fire extinguishers containing a dry chemical, such as carbon dioxide, or water sprayed as fog, may be used on radiological fires. This will prevent the spread of potential contamination.

d. Disposal of radioactive components/waste will be IAW published regulations and turned in through supply channels.

e. Exposure to radiation will be kept to a minimum by observing time, distance, and shielding.

f. Accidents or fires with radioactive materials/equipment will be reported to the FLWRSO on a timely basis.

g. See paragraph 23-22 for detailed instructions on emergency radiological procedures.

23-19. Incident response

The unit RSO is the focal point of contact at a unit on matters related to radioactive materials. The unit RSO will be familiar with the safety and emergency procedures to be implemented in case of a fire or accident with radioactive materials. The unit RSO will contact the FLWRSO. The FLWRSO will advise the owners of radioactive equipment that unserviceable, damaged, or potentially contaminated instruments must be identified, placed in a plastic bag and evacuated to appropriate support. The unit RSO will advise the commander of the inventory, identification, inspection, and storage of equipment containing radioactive materials in addition to any other matter related to radioactive materials. Should an incident occur with radioactive equipment, while in remote location from the installation, the following procedures will be enforced:

a. Contain the area of the incident/fire.

b. Keep personnel out of the contained areas.

c. Monitor the area for contamination (if proper equipment is available).

d. During an accident or fire with radioactive equipment, one must assume that leakage and contamination will exist until proven otherwise with appropriate monitoring equipment. If in doubt on any radiation matter, consult with the unit commander or CBRN officer. If the above are unavailable,

the senior person present takes charge and implements the radiological emergency procedures of paragraph 23-22 of this regulation.

23-20. Radiological emergency procedures

a. A radiological emergency may exist when the potential to overexposure to or contamination of personnel by ionizing radioactive materials is present or imminent. The emergency may result for numerous reasons, such as, fire, explosion, source leakage, theft or loss of radioactive source, or involvement in a vehicle accident. It must be assumed until proven otherwise, that a radioactive source involved in an accident is leaking and will be contaminated, therefore, the overexposure by ionizing radiation and contamination of personnel by radioactive material particles must be avoided or dealt with in an effective manner. Radiological emergencies may occur at any time or place, such as: in shop areas, barracks, highways, or in maneuver areas, therefore, it is inconceivable to establish a plan for every type of radiological emergency that might occur. In general, these instructions will provide guidance in order to react to radiological emergencies effectively and bring the emergency situation under control.

b. A radiological emergency, regardless of where or when it occurs, will require immediate actions to be accomplished. Once the incident is recognized as a radiological emergency the following steps will be implemented immediately by personnel at the scene of the emergency, regardless of whether the incident occurs on the installation, highways, or maneuver areas:

(1) The senior CBRN NCO/Officer at the scene will take charge and coordinate all efforts to bring the situation under control.

(2) Panic and confusion should be avoided.

(3) Evacuate all personnel from the scene of the accident at least 100 yards in an upwind direction. These personnel should be segregated from other personnel and monitored for possible contamination prior to being released.

(4) Rope or mark off the emergency area to prevent unauthorized entry into the probable radiation area, except for rescue purposes, fire fighting, and other valid reasons.

(5) Contain the radiation hazard by rerouting personnel and traffic, in order to prevent the spread of potential contamination.

(6) Within your means, attempt to extinguish fire, if applicable.

(7) Notify authorities, either military or civilian, as the situation may warrant. Request assistance for specialized emergency personnel.

23-21. Emergency radiation countermeasures

A radiological emergency may require the expertise of personnel in different fields, such as: police, fire, medical, FLWRSO, or assistance from the local civil authorities. At the scene of the radiological emergency, evaluate the situation and react accordingly in order to save lives, prevent radiation overexposure, or prevent contamination of personnel and equipment. The following countermeasures are normally limited to emergency personnel who react to the request for assistance. Unfortunately, accidents may occur at remote locations and assistance may not be available for hours. Under these circumstances, the individuals or units at the scene of the accident may take immediate action in the following emergency countermeasures, provided, that no one is endangered unnecessarily and that the knowledge, equipment, and other resources are available to deal with ionizing radiation emergencies.

a. Fires.

(1) If a radiological emergency is not immediately present (excessive radiation and contamination), all efforts will be made to extinguish the fire.

(2) A dry chemical, such as carbon dioxide, should be used in order to prevent widespread contamination.

(3) If water is necessary to extinguish the fire, the water should be sprayed as fog in order to prevent the spread of contaminated particles.

(4) If material or the air is suspected of becoming contaminated, rescue workers and fire fighters must wear protective clothing to prevent radioactive particles from contacting the body and respirators worn to prevent the inhalation of these contaminants.

(5) Emergency action personnel will be monitored with an appropriated radiacmeter upon leaving a radiation area.

b. First Aid. Personnel identified as injured and/or contaminated should be evacuated to a physician as soon as possible. First aid may be provided while waiting for evacuation as follows:

(1) Wash wound with clean water.

(2) Allow wound to flow freely for a short period of time.

(3) If mouth, eyes, or nose are contaminated, rinse repeatedly with clean water.

c. Decontamination. After the emergency is contained and under control, decontamination procedures will be initiated as follows:

(1) Contaminated personnel will wash with lukewarm water and nonabrasive soap. Cover entire body with lather. Sprinkle soap flakes over the entire contaminated individual. Individual will rub soap flakes on body into a paste. Next rinse entire body with water and remove all traces of soap. Dry body and be monitored. If generally contaminated, the above procedures will be repeated until the levels of contamination are within authorized limits. If the contamination is localized, it may be more practical to cleanse the affected area with swabs rather than to risk the danger of spreading the contaminant. Do not use organic solvents as decontaminates. Contaminated personnel should be evacuated to a medical facility for decontamination as soon as possible, nevertheless, the above procedures may be initiated when medical assistance is unavailable or evacuation of contaminated personnel is delayed. If extensive contamination exists, obtain assistance/advice from medical personnel before proceeding.

(2) Contaminated Materials and Equipment. Generally, equipment may be decontaminated by washing with soap and water or by cleaning with abrasive material. The person performing the decontamination will—

(a) Wear surgeon's protective gloves when decontaminating equipment.

(b) Repeat above procedures until contamination levels are within NRC License limits.

(c) Discard cleaning materials as radioactive waste. In addition, the drainage of contaminated water into sewer system must be controlled IAW the requirements of Title 10 CFR.

(3) Contaminated Highways and Grounds: If the contamination occurs in these areas, it may be removed by—

(a) Sweeping and shoveling contaminated materials in to a suitable container.

(b) If the contamination is in liquid form, it may be contained by means of dirt, cloth, sawdust, or any other absorbent material.

(c) Monitor affected area and ensure it is within safe levels.

(d) Use appropriate monitoring instruments as required by the circumstances, for example, use the AN/PDR-77 or AN/VDR-2.

(e) Place all contaminated materials and equipment in a plastic bag and remove to an authorized radioactive waste facility.

d. Radiological incidents with "Controlled Items" may require special handling procedures due to their radiation levels and/or toxicity. If this equipment is damaged or burnt in an accident, it must be assumed to be leaking and/or contaminated until proven otherwise.

23-22. Ionizing radiation accident reports

Ionizing radiation accidents will be expeditiously reported as required by DA Pam 385-40.

23-23. Storage and disposal of unwanted radiological devices and radiological waste

a. Low level radioactive devices and waste may be stored locally until a sufficient quantity is obtained for turn-in.

b. Radioactive waste, such as: gloves, swipes, and work bench paper will be stored in metal containers with 4-mil plastic liners. All containers will be clearly marked with standard radioactive warning labels, which indicate type of radionuclides present and quantities of each in microcurie or millicurie. Bag will be marked "Radioactive Waste" with radionuclide and quantity.

23-24. Installation and radioactive waste storage facility

a. The installation radioactive waste storage annex is under the operational control of the DOL and is located at the DOL Maintenance Area, FLW, duty phone 596-8998.

b. Only the FLWRSO and personnel authorized by the FLWRSO will be allowed into the waste storage room.

c. The storage room door will be clearly marked IAW DA Pam 385-24, 10 CFR, and NRC licenses.

d. The room will be maintained in an extremely clean condition.

e. The storage door will be kept locked at all times, unless in use by authorized personnel.

f. Workers will be briefed on the following:

(1) There will be no eating, drinking, smoking, chewing gum or tobacco, or applying cosmetics in the storage room at any time.

(2) Radioactive waste sources will be handled only long enough to accomplish storage operations.

(3) Workers will be issued and will wear a personal monitoring device if they meet the criteria stated in DA Pam 385-24. The badge will be worn each time they enter the storage room. The badge will be placed between the shoulder and the hip.

(4) Workers will wear surgical gloves when handling any radioactive source in the storage room.

(5) Workers will always wash hands after performing work in the storage room area.

23-25. Turn in of radioactive devices

a. Units will turn in serviceable and unserviceable devices, on a DA Form 2765-1 (Maintenance Request) classification turn in document, to DOL storage and central turn-in supply.

b. DD Form 1348-1A, Release Document is prepared. If item is designated for disposal, it will be temporarily stored at DOL maintenance division radioactive waste storage annex, awaiting consolidation and shipment to a waste site by OSC.

23-26. Turn in of radioactive contaminated waste

a. Radioactive waste, such as: gloves, filters, swipes, and work bench paper that has accumulated at unit level and has been stored in metal containers will be turned in the following manner:

(1) Make sure container and bags in container are marked and sealed as previously stated.

(2) Write what the waste is, the radionuclide, and the quantity on the form.

b. Dispose of contaminated M43A1 outlet filters IAW TM 3-6665-312-12&P, paragraph 4-13.

23-27. Prompt turn in of items/material for disposal

a. The process of disposing of radioactive materials will be more complex and costly as the responsibility for disposal shifts to individual states. As current disposal facilities are closed and anticipated new sites are delayed, availability of disposal options will be reduced. Costs associated with the development and operation of new sites will be passed on to the generators. The cost per cubic foot for all sites could triple in the near future with constant growth to follow.

b. The AMC recommends that all installations dispose of their current stores of waste radioactive materials prior to calendar year.

c. Disposal of radioactive materials will be coordinated with OSC by the FLWRSO.

23-28. Control of non-ionizing radiation sources

a. Laser and High Intensity Light Sources. Radiation protection control is required for potentially hazardous sources of optical radiation. The following general list of radiation control elements applies:

(1) SOPs will be published and enforced with copies forwarded to the FLWRSO. These SOPs will specify all radiation safety policies relative to equipment and personnel control to ensure that exposure of personnel is minimized. Under no circumstances should exposure exceed established limits. See template SOPs at appendix Q.

(2) All persons who could be accidentally exposed to potentially hazardous sources of optical radiation will be informed of the radiation hazards and instructed regarding the rules and procedures to be complied with. Instructions will include SOP familiarization or review, proper use of protective

equipment and devices, accident reporting procedures, routine checks or surveys prescribed to ensure radiation safety, and procedures for maintaining an operational log for recording radiation safety-related events (safety interlock/warning sign or light overrides, prohibited radiation zone violations, etc.). Radiation safety briefs and instructions should be given annually, and records of instructions will be forwarded to the FLWRSO. These records will include a brief outline of the instructions and list of persons who received the instructions.

(3) All controlled areas will be properly marked, and will have proper warning signs, barricades, lights, alarms and safety switches IAW TB MED 524.

(4) The FLWRSO, will be notified in the event of an optical radiation source or related safety feature malfunction that could produce radiation levels in excess of the personnel exposure limits.

(5) All alleged overexposure will be reported IAW AR 385-40.

(6) A comprehensive inventory of all sources will be maintained, and an updated copy of this inventory will be forwarded to the FLWRSO. The inventory will be due annually NLT 31 October.

b. Warning Signs for Lasers.

(1) Basis. The appropriate format for warning signs is based upon the hazard classification for the lasers of concern. Further guidance is provided in TB MED 524 to classify a laser.

(2) Warning Signs. Warning signs shall be conspicuously displayed on all entry points or doors to Class 3b and Class 4 laser areas. Warning signs shall use the word "DANGER" and include the type of the laser and the word "VISIBLE" and/or "INVISIBLE", as appropriate, which shall precede the word "RADIATION". The sign shall also contain an appropriate instructional statement, such as: "KNOCK BEFORE ENTERING", or "AUTHORIZED PERSONNEL ONLY - KNOCK AND WAIT". When multiple lasers are present, the types of lasers may be omitted and only a single warning sign is necessary. Additional design specifications for accident prevention signs are contained in ANSI Z35.1. Warning signs indicating laser use should be displayed only during periods of actual laser use to preclude personnel from developing an attitude that the sign has no meaning, since it is ignored during lengthy periods when lasers are not operated.

c. Warning signs for high intensity lights.

(1) Scope. The format for warning signs for high intensity lights follow. No other guidance currently exists for such sources and some judgment may be required. The general scheme is described below. Warning signs shall provide clear instructions to the operators, maintainer, and potential bystanders.

(2) Warning Signs. Warning signs shall be conspicuously displayed on all entry points or doors to areas containing optical radiation sources which pose either a retinal burn hazard within the normal blink reflex of the eye or pose a significant potential hazard from actinic ultraviolet (UV) radiation such as from some electric arc sources like welding, carbon, mercury and xenon arcs. Few sources emit sufficient radiation to cause chorioretinal burns for momentary exposures. Warning signs shall use the word "DANGER" and shall contain an appropriate instructional statement such as: "KNOCK BEFORE ENTERING" or "AUTHORIZED PERSONNEL ONLY". Signs shall also include the type of source and the word "VISIBLE" and/or "ULTRAVIOLET" and/or "INFRARED", as appropriate, which shall precede the word "EMISSIONS". "DANGER" signs shall be printed upon a white background with a bright red oval around the word "DANGER" and shall contain a red "starburst" and black lettering.

23-29. Radio frequency radiation (RFR)

a. Because of the low energy content of RFR radiation, it does not ionize materials and consequently is known as non-ionizing radiation. Absorption of RFR energy generally results in heating of the absorbing medium. If heat gain exceeds compensatory capability, the overall temperature may increase to deleterious levels.

b. Radiation protection control is required for every RFR system that is able to produce power density levels in excess of the PEL. The following general list of radiation control elements applies:

(1) SOPs will be published and enforced with copies forwarded to the FLWRSO. These SOPs will specify all radiation safety policies relative to equipment and personnel control to ensure that exposure of personnel is minimized. Under no circumstances should exposure exceed established limits. See template SOPs at appendix Q.

(2) All persons potentially exposed to RFR will be informed of the radiation hazards and instructed regarding the rules and procedures to be complied with. Instructions will include SOP familiarization or review, proper use of protective equipment and devices, accident reporting procedures, routine checks or surveys prescribed to ensure radiation safety, and procedures for maintaining an operational log for recording radiation safety-related events (safety interlock/warning sign or light overrides, prohibited radiation zone violation).

(3) Radiation safety briefings and instructions will be given annually and records of instructions will be forwarded to the FLWRSO. These records will include a brief outline of the instructions and a list of persons who received the instructions.

(4) All controlled areas will be properly marked and will have proper warning signs, barricades, lights, alarms, and safety switches. RFR hazard warning signs are required at all access points to areas in which RFR levels may exceed the PEL. Appropriate information will be inserted on the signs IAW TB MED 524.

(5) The FLWRSO, 596-0151/8998 will be notified in the event of an alleged RFR overexposure or related safety feature malfunction that could produce radiation levels in excess of the PEL.

(6) All alleged RFR overexposure will be reported in accordance with the requirements of AR 385-40.

(7) A comprehensive inventory of all RFR sources will be maintained, and an updated copy of this inventory will be forwarded to the FLWRSO. The inventory will be due annually NLT 31 October.

Appendix A
REFERENCES AND FORMS

Section I
Required References

PUBLIC LAW 91-596	OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
EXECUTIVE ORDER 12196	OCCUPATIONAL SAFETY AND HEALTH PROGRAMS FOR FEDERAL EMPLOYEES.
29 CFR 1910	GENERAL INDUSTRIES STANDARDS
29 CFR 1926	CONSTRUCTION STANDARDS

29 CFR 1960	BASIC PROGRAM ELEMENTS FOR FEDERAL EMPLOYEES
49 CFR 571	U.S. DEPARTMENT OF TRANSPORTATION
DODI 6055.1	DOD SAFETY AND OCCUPATIONAL HEALTH (SOH) PROGRAM
DODI 6055.04	DOD TRAFFIC SAFETY PROGRAM
DODI 6055.9	DOD AMMUNITION AND EXPLOSIVES SAFETY STANDARDS
DODI 6055.15	DOD LASER PROTECTION PROGRAM
DOT STANDARD 218	DEPARTMENT OF TRANSPORTATION
AR 11-34	THE ARMY RESPIRATORY PROGRAM
AR 25-400-2	THE ARMY RECORDS INFORMATION MANAGEMENT SYSTEM (ARIMS)
AR 40-5	PREVENTIVE MEDICINE
AR 50-6	CHEMICAL SURETY
AR 385-10	THE ARMY SAFETY PROGRAM (*RAR 004, 10/04/2011)
AR 385-63	RANGE SAFETY
AR 600-55	THE ARMY DRIVER AND OPERATOR STANDARDIZATION PROGRAM (SELECTION, TRAINING, TESTING, AND LICENSING)
AR 710-3	INVENTORY MANAGEMENT ASSET AND TRANSACTION REPORTING SYSTEM
DA PAM 385-1	SMALL UNIT SAFETY OFFICER/NCO GUIDE
DA PAM 385-10	ARMY SAFETY PROGRAM (*RAR 003, 01/19/2010)
DA PAM 385-16	SYSTEM SAFETY MANAGEMENT GUIDE
DA PAM 385-24	THE ARMY RADIATION SAFETY PROGRAM (*RAR 002, 09/22/2011)
DA PAM 385-30	MISHAP RISK MANAGEMENT (*RAR 001, 02/01/2010)
DA PAM 385-40	ARMY ACCIDENT INVESTIGATIONS AND REPORTING (*RAR 001, 2/25/2010)
DA PAM 385-61	TOXIC CHEMICAL AGENT SAFETY STANDARDS
DA PAM 385-63	RANGE SAFETY
DA PAM 385-64	AMMUNITION AND EXPLOSIVES SAFETY STANDARDS
DA PAM 385-65	EXPLOSIVE AND CHEMICAL SITE PLAN DEVELOPMENT AND SUBMISSION (* RAR 001, 07/20/2009)
DA PAM 50-6	CAIRA OPERATIONS
DA PAM 40-8	TEMPORARY FLYING RESTRICTIONSDUE TO EXOGENOUSFACTORS AFFECTING AIRCREW EFFICIENCY
DA PAM 40-501	HEARING CONSERVATION PROGRAM
TRADOC REGULATION385-2	U.S. ARMY TRAINING AND DOCTRINE COMMAND SAFETY PROGRAM
TRADOC REGULATION 350-6	TRAINING ENLISTED INITIAL ENTRY TRAINING (IET) POLICIES AND ADMINISTRATION
TRADOC REGULATION 350-70	SYSTEMS APPROACH TO TRAINING MANAGEMENT, PROCESSES, AND PRODUCTS

FLW REGULATION 40-7	HEARING CONSERVATION PROGRAM
FLW REGULATION 190-5	MOTOR VEHICLE TRAFFIC SUPERVISION ON FORT LEONARD WOOD
FLW REGULATION 210-14	RANGE AND TRAINING AREA REGULATIONS
FLW REGULATION 420-2	FIRE REGULATION
FLW REGULATION 690-24	CIVILIAN PERSONNEL ADVISORY CENTER
FM 3-0	OPERATIONS
FM 5-19	COMPOSITE RISK MANAGEMENT
FM 21-18	FOOT MARCHES
FM 55-1	TRANSPORTATION OPERATIONS
FM 55-30	ARMY MOTOR TRANPORT UNITS AND OPERATIONS (INCL C-1)
TB 43-180	CALIBRATION AND REPAIR REQUIREMENTS FOR THE MAINTENANCE OF ARMY MATERIEL
TB MED 523	CONTROL OF HAZARDS TO HEALTH FROM MICROWAVE AND RADIO-FREQUENCY RADIATION AND ULTRASOUND
TB MED 509	SPIROMETRY IN OCCUPATIONAL HEALTH SURVEILLANCE
TB MED 502	RESPIRATORY PROTECTION PROGRAM
TC 3-22.20	ARMY PHSYICAL READINESS TRAINING
TM 9-4520-257-12&P	HEATER, SPACE, RADIANT, LARGE (TYPE I, SOLID FUEL)
TM 3-6665-312-12&P	M8A1 AUTOMATIC CHEMICAL AGENT ALARM
TM 3-6665-312-30&P	M8A1 AUTOMATIC CHEMICAL AGENT ALARM
TM 3-6665-321-12&P	ALARM, CHEMICAL AGENT, AUTOMATIC: M22
TM 3-6665-331-23&P	CHEMICAL AGENT MONITOR (CAM)

Section II
Related References

DA MEMO 385-3	HQDA MACOM SAFETY PROGRAM
DFARS Part 222.102-1: Policy	APPLICATION OF LABOR LAWS TO GOVERNMENT ACQUISITIONS
EM 385-1-1	ARMY CORPS OF ENGINEERS SAFETY REQUIREMENTS
FLW PAM 385-1	PREVENTING WEATHER RELATED ACCIDENTS AND INJURIES

FM 55-30	ARMY MOTOR TRANPORT UNITS AND OPERATIONS (INCL CH-1)
TB 43-0116	IDENTIFICATION OF RADIOACTIVE ITEMS IN THE ARMY
TB MED 509	SPIROMETRY IN OCCUPATIONAL HEALTH SURVEILLANCE
TB MED 502	RESPIRATORY PROTECTION PROGRAM
TC 3-22.20	ARMY PHSYICAL READINESS TRAINING
NFPA 1404	STANDARD FOR FIRE SERVICES RESPIRATORY PROTECTION TRAINING.
ANSI Z244.1	MINIMUM SAFETY REQUIREMENTS FOR PERSONNEL PROTECTION LOCKOUT/TAGOUT OF ENERGY SOURCES
ANSI Z88.2	CONSENSUS STANDARDS FOR A RESPIRATOR PROGRAM
ANSI) Z87.1	INDUSTRIAL EYEWEAR IMPACT STANDARD
MIL-STD 882	DEPARTMENT OF DEFENSE STANDARD PRACTICE FOR SYSTEM SAFETY
AMC R 700-107	Preparation of Standing Operating Procedures for Ammunition Operations (SOP)

Section III
Required Forms

DD FORM 626	MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIAL)
DD FORM 836	DANGEROUS GOODS SHIPPING PAPER/DECLARATION AND EMERGENCY RESPONSE INFORMATION FOR HAZARDOUS MATERIALS TRANSPORTED BY GOVERNMENT VEHICLES
DD FORM 1348-1A	ISSUE RELEASE/RECEIPT DOCUMENT
DD FORM 1556	REQUEST, AUTHORIZATION, AGREEMENT, CERTIFICATION OF TRAINING AND REIMBURSEMENT
DD FORM 2324	DOD FIRE INCIDENT REPORT
DA FORM 87	CERTIFICATE OF TRAINING
DA FORM 285	TECHNICAL REPORT U.S. ARMY GROUND ACCIDENT REPORT
DA FORM 285-AB	ARMY ABBREVIATED GROUND ACCIDENT REPORT
DA FORM 2765-1	REQUEST FOR ISSUE OR TURN-IN
DA FORM 7566	COMPOSITE RISK MANAGEMENT WORKSHEET
DA FORM 4753	NOTICE OF UNSAFE OR UNHEALTHFUL WORKING CONDITIONS
DA FORM 4754	VIOLATION INVENTORY LOG
DA FORM 4756	INSTALLATION HAZARD ABATEMENT PLAN
DA FORM 4283	FACILITIES ENGINEERING WORK REQUEST

DA FORM 2272	DOD OCCUPATIONAL SAFETY AND HEALTH PROTECTION PROGRAM
DA FORM 1119-1	CERTIFICATE OF ACHIEVEMENT IN SAFETY
DA FORM 7305	WORKSHEET FOR TELEPHONIC NOTIFICATION OF AVIATION ACCIDENT/INCIDENT
DA FORM 7306	WORKSHEET FOR TELEPHONIC NOTIFICATION OF GROUND ACCIDENT
OF 346	US GOVERNMENT MOTOR VEHICLE OPERATOR'S IDENTIFICATION CARD
USA MEDDAC FORM 206	HEALTH HAZARD INFORMATION MODULE FIELD SURVEY
USA MEDDAC FORM 734	PREVENTIVE MEDICINE ERGONOMICS CHECKLIST
FLW CPR 690-33	INJURY COMPENSATION
CA FORM 1	FEDERAL EMPLOYEES' NOTICE OF TRAUMATIC INJURY AND CLAIM FOR CONTINUATION OF PAY/COMPENSATION
CA FORM 2	FEDERAL EMPLOYEE'S NOTICE OF OCCUPATIONAL DISEASE AND CLAIM FOR COMPENSATION
FLW FORM 661	FORT LEONARD WOOD COMPOSITE RISK MANAGEMENT WORKSHEET
FLW FORM 570-6	SAFETY EDUCATION CARD

Appendix B
INSTALLATION SAFETY RULES

B-1. General.

Adequate instructions and enforcement of applicable safety rules are the inherent responsibility of commanders, directors, chiefs of activities, and subordinate supervisors.

B-2. Responsibility.

Commanders/directors will ensure that newly assigned personnel read or receive instructions on the safety rules outlined in this appendix.

B-3. Requirements and Prohibitions.

a. Pedestrian safety. Maximum utilizations will be made of sidewalks and troop trails. Walking is permitted only on the left side of the street, road, or highway (facing oncoming traffic), if there is no sidewalk. Avoid unnecessary walking or running on rough terrain or within poorly lighted areas.

b. Riding in trucks. Trucks are to be mounted or dismounted at the rear of the bed. Passengers will be seated while the vehicle is in motion and will not extend any part of their bodies beyond the body of the vehicle. Passengers will not jump from vehicles but will dismount in a safe and orderly manner. Individuals will not ride on any trailer not specifically designated as a personnel carrier. When a dump truck is used to transport personnel, positive locking devices will be used to prevent inadvertent

actuation of hoist controls. All loads on vehicles will be secured to prevent the load from shifting and possible injury to personnel.

c. Mess/dining activities. Supervisors will instruct all duty personnel concerning methods to avoid accidents from slippery surfaces; improper firing of equipment; cuts from glass, cans, or other sharp objects; handling of hot liquids; and skin injuries from improper use of detergents. Only cooks or properly instructed cadre are authorized to light or attend immersion heaters. Blades will not be removed from meat slicing machines by unit personnel. The piping from hot water temperature relief valves will not be extended to the exterior of the building. Lights over food preparation or serving areas will be protected by vapor proof globes.

d. Prohibited places.

(1) All personnel will refrain from entering work areas, work sites, rooms, or buildings if their presence is not required or permitted.

(2) No person will be present on fire platforms or fire ladders except in case of a fire which makes inside stairways inaccessible or when performing authorized maintenance on these structures.

(3) No person will be permitted on building overhangs or ledges unless directed by proper authority, and then only if properly secured by adequate safety ropes.

e. Safety of military personnel on pass and leave.

(1) Hitchhiking is prohibited. All personnel will be warned of the danger and hazards of riding with reckless drivers and the possible assault, robbery, and death resulting from accepting rides with strangers.

(2) All personnel will be informed of the following:

- That the privately owned vehicle is the leading factor in the installation's injury and death experience.
- That the leading causes of vehicle accidents are—
    - Excessive speed for driving conditions.
    - Driver fatigue.
    - Drinking of alcoholic beverages.
- That these accidents are frequently compounded by attempting to go too far in the time available.
- That failure to use seat belts leads to increased severity of injury in case of accident.

(3) Personnel on non duty status will be warned to avoid contact with unknown persons in public places, to avoid walking alone on dark streets and areas, to stay sober, and to avoid altercations.

(4) Personnel will be frequently reminded during the swimming season that swimming in areas where qualified lifeguards are not present is prohibited. They will be reminded that the number two cause of fatalities among FLW personnel is drowning and that more than 90 percent of the drowning occur off post in the Lake of the Ozarks and the Gasconade and Roubideaux Rivers.

f. Tornado safety. The tornado safety rules contained in FLW Pamphlet 385-1 should be observed for maximum protection against tornadoes.

g. Electrical precautions.

(1) Cranes, shovels, and other equipment will not be operated within 20 feet of any high-voltage power lines; nor will any antennae, pipe, or other conductor be positioned where they may come in contact with such lines.

(2) Fans normally will be operated at a minimum height of 7 feet above the floor to preclude injury. If operation at a lower level is required, fans will be equipped with auxiliary guards adequate to prevent contact of blades with persons or clothing.

h. Solvents and flammable liquids.

(1) The use of gasoline and other petroleum derivatives, except nonflammable liquids (such as Stoddard solution), to clean parts of the body, clothing, brushes, equipment, and floors, or for degreasing or thinning paint is prohibited. All cleaning tanks will have a water supply as outlined by Occupational Safety and Health Administration (OSHA) within 48 inches.

(2) The use of grease, gasoline, kerosene, fuel oil, or other flammable liquids to accelerate fires in coal- or wood-fired equipment is prohibited.

i. Hand tools. Hand tools will be used only for the purpose and range limits for which they were designed and only then when in good condition (for example, free of mushroomed parts, splintered or cracked handles, grease, dirt, or improperly secured parts). They will be transported and stored in such a manner as to prevent injury to personnel/damage to equipment. Pick and mattock handles will not protrude more than 3/8-inch beyond the top of these tools.

j. Ladders.

(1) Ladders of all types will be used only when free of defective conditions which might induce falls.

(2) Will be properly positioned and secured before use.

(3) Must be of proper length and type for the purpose of use.

(4) Portable wooden ladders will not be painted but may be covered by a transparent protective coating such as linseed oil or shellac.

(5) Must be properly secured to prevent use when unserviceable.

(6) Insecure expedients will not be used in lieu of ladders and scaffolds.

k. Clothing and jewelry.

(1) Clothing, headdress, and footwear appropriate to the work being performed and the conditions of work will be worn.

(2) Proper gloves will be worn in the handling of sharp, rough, hot, or corrosive materials.

(3) By entanglement, finger rings may catch on tailgates and other parts of trucks while dismounting. To reduce this type injury, the wearing of rings by Soldiers undergoing basic training, advanced individual training, and field training exercises requiring movement of troops by truck will be discouraged. The “no jewelry” rule will apply to personnel working with machinery.

(4) Loose or ragged clothing will not be worn around moving parts of machines.

(5) Protective clothing and equipment will be furnished and worn in all work sites where required.

l. Machinery and other equipment.

(1) No individual will operate any machinery or other equipment unless properly trained, assigned by proper authority, and using adequate protective clothing and equipment.

(2) Machines will have guards installed IAW OSHA standards.

(3) Machines will not be operated when any inspection, adjustment, lubrication, or repair presents hazards.

(4) Machines or vehicles will not be elevated without adequate support to ensure stability.

(5) Abrasive wheels.

(a) Abrasive wheels will be operated only at speeds prescribed by the manufacturer, when properly mounted, with the perimeter guards and tool rests secured in the proper positions and with the user protected by safety goggles.

(b) Grinding on sides of wheels will be done only on wheels specifically designed for side grinding.

(c) Wheels containing cracks or other flaws will be immediately marked and removed from service.

(d) Conduct ring tests on all abrasive wheels IAW 29 CFR 1910.215 (d)(1) prior to use.

(e) Any extra abrasive wheels will be properly stored to protect them from damage.

(6) Portable electrical generators and welding machines will be adequately grounded before being operated.

m. Compressed air and other gases.

(1) Compressed air and other gases will not be directed at the person or clothing of any person. Working pressures (pressure actually being released at nozzle) will not exceed 30 pounds per square inch (psi) when used for cleaning purposes.

(2) When used for painting or cleaning, operators will use adequate eye and respiratory protection to prevent injuries or unfavorable health conditions.

(3) Full/empty compressed cylinders will be secured by chains or clamps to assure security from damage and will be protected from exposure to the elements or extreme heat. Caps will be kept on bottles when gauges are not attached.

(4) Condensation will be drained from air compressor tanks at least weekly. This will be done more frequently when high humidity and heavy usage prevail. Compressors will not be operated at pressures in excess of the permissible pressure stated on the instruction plate.

n. Welding operations. Welding and cutting operations (acetylene or electric) will not be performed without the use of adequate protective equipment for the operator and all others within the area of operation. All personnel in organizations in which welding or cutting or cutting operations are performed

will comply with the provisions of OSHA Standard 1910.252. All acetylene welding apparatus will be equipped with backflow check valves between the work hoses and the regulator.

o. Snow and Ice. It is the responsibility of commanders, supervisors, or senior occupants of each building, bachelor officer's quarters (BOQ), bachelor enlisted quarters (BEQ), and the occupants of dependent quarters to take prompt remedial action in their assigned areas to minimize slipping hazards by removal of snow and ice.

p. Glass hazards. Broken glass will be disposed of in a manner that will prevent injury to personnel.

q. Barracks hazards.

(1) Electrical wiring that is defective (frayed, broken, or exposed) in buildings or on appliances will be repaired by a qualified electrician.

(2) Lights in shower rooms will be protected by vapor-proof globes. Handrails and steps will be kept in a good state of repair. Broken glass, protruding nails, and tripping hazards should be eliminated at the time of detection.

r. Gas-powered lawn mowing equipment.

(1) Riding mowers.

(a) Operators must be licensed before operating this equipment. The Buildings and Grounds Division, DPW, conducts the required training and issues the licenses.

(b) Noise level of 85db mandates the wearing of hearing protection.

(c) Sturdy shoes (leather; not fabric) must be worn.

(2) Push mowers.

(a) Noise level of 85db mandates wearing of hearing protection.

(b) Eye protection is required.

(c) Footwear as in paragraph above.

(3) Gas-powered weed eaters.

(a) Noise levels of 85db or more mandates the wearing of hearing protection.

(b) Eye protection is required.

(c) Never attempt to add fuel or make engine adjustments while engine is running or strapped to the operator.

Appendix C
SAMPLE OF AN ADDITIONAL DUTY SAFETY OFFICER (ADSO)/COLLATERAL DUTY SAFETY OFFICER (CDSO) APPOINTMENT ORDERS

DEPARTMENT OF THE ARMY
YOUR LETTER HEAD
FORT LEONARD WOOD, MISSOURI 65473-8929

REPLY TO
ATTENTION OF

ATZT-xx date

MEMORANDUM FOR

SUBJECT: Additional Duty Safety Officer (ADSO)/Collateral Duty Safety Officer Appointment Orders

1. Effective (date) the following individual(s) are assigned the duties and responsibilities within the (unit name).

a. Additional Duty Safety Officer–Rank & Name (BN level and higher must have a commissioned officer appointed. They may also have an appointed NCO).

b. Additional Duty Safety NCO–Rank & Name (Company level may have only an NCO in the rank of SSG or higher)

c. Collateral Duty Safety Officer–Rank & Name (Civilians use this title)

2. Authority: AR 385-10, Army Safety Program, 23 August 07, TRADOC Regulation 385-2, TRADOC Safety Program, January 2009, FLW 385-6, 26 June 02.

3. Purpose: Responsible for the implementation, sustainment and enforcement of the Army Safety Program in accordance with cited regulations. Manage the unit Safety Program for the Commander ensuring safety standards, procedures, and Composite Risk Management (CRM) process is integrated into all operations.

4. Period: For a minimum of 1 year from the effective date or until relieved.

5. Special Instructions:

a. Report directly to the Commander/Director and advise on the status of all safety related issues, to include unit safety program evaluations, safety training, accident reporting and investigations, identifying hazards, CRM and any other safety related issues affecting mission success. This will enable the commander to achieve the desired integration between CRM, accident prevention and mission accomplishment.

b. Complete required ADSO course and other required training IAW FLW 385-6, dated 26 June 02.

ATZT-xx
SUBJECT: Additional Duty Safety Officer (ADSO)/Collateral Duty Safety Officer Appointment Orders

c. Principal staff officers and section chiefs will oversee the ADSO duties, responsibilities and special projects. In the event an appointed individual is unable to complete the assigned additional duty, section chiefs will designate replacement(s). All unit safety material (safety binders, training materials, unit safety inspections, certifications, etc.) will remain with the unit after an appointed ADSOs has been officially relieved.

d. Military OER/NCOER or Civilian Performance Appraisal (use the one that applies), will reflect the additional duties, responsibilities and special projects assigned and completed.

Commander's Signature Block

CF:
MSCoE Safety Office

Appendix D
SAMPLE OF A DD Form 2272

DEPARTMENT OF DEFENSE
SAFETY AND OCCUPATIONAL HEALTH PROTECTION PROGRAM
The Occupational Safety and Health Act of 1970, Executive Order 12196 and 29 CFR 1960 require the heads of Federal agencies to establish programs to protect their personnel from job safety and occupational health hazards.

1. The Department of Defense (DoD) designated agency safety and occupational health official is the Assistant Secretary of Defense (Force Management and Personnel).

2. The **Department of the Army's** designated safety and occupational health official is **HON.** _____**, Deputy Asst Sec of Army for Install and Environ (ASA (I&E), Washington, DC 20360.**

3. The **Fort Leonard Wood** safety and occupational health designee is _____ **Safety Director.**

4. The _____ safety point of contact is _____ .
(Your Unit) (Unit Safety Officer's name and phone number)

5. The **Fort Leonard Wood** occupational health point of contact is _____**, 6-0519, Fort Leonard Wood, MO, MEDDAC Preventive Medicine Services.**

Fort Leonard Wood HAS THE RESPONSIBILITY TO:

1. COMPLY with the applicable Occupational Safety and Health Administration (OSHA)/DoD/DoD Component safety and occupational health standards.

2. SET UP PROCEDURES for submitting and responding to employee reports of unsafe and unhealthful working conditions.

3. ACQUIRE, MAINTAIN, AND REQUIRE the use of approved personal protective equipment and safety equipment.

4. INSPECT ALL WORKPLACES with participation by civilian employee representatives to identify potential hazards.

5. ESTABLISH PROCEDURES to assure that no worker is subject to restraint, interference, coercion, discrimination, or reprisal for exercising his/her rights under the DoD safety and occupational health program.

6. POST NOTICES of unsafe or unhealthful working conditions found during inspections.

7. ASSURE PROMPT ABATEMENT of hazardous conditions. Workers exposed to the conditions shall be informed of the abatement plan. Imminent danger corrections must be made immediately.

8. SET UP A MANAGEMENT INFORMATION SYSTEM to keep records of occupational accidents, injuries, illnesses and their causes; and to post annual summaries of injuries and illnesses for a minimum of 30 days at each installation/facility.

9. CONDUCT SAFETY AND OCCUPATIONAL HEALTH TRAINING for management, supervisors, workers and worker representatives.

DOD PERSONNEL HAVE THE RESPONSIBILITY TO:

1. COMPLY with all applicable OSHA/DoD/DoD Component safety and occupational health standards
2. COMPLY with **Fort Leonard Wood** policies and directives relative to the safety and occupational health program.
3. USE personal protective equipment and safety equipment provided by your installation/facility.
4. REPORT hazardous conditions, injuries, illnesses, or other mishaps promptly to your supervisor or to the safety or occupational health point of contact for your installation/facility.

DOD PERSONNEL AND CIVILIAN EMPLOYEE REPRESENTATIVES HAVE THE RIGHT TO:

1. HAVE ACCESS to applicable OSHA/DoD/DoD Component standards, installation/facility injury and illness statistics, and safety and occupational health program procedures.
2. COMMENT on alternate standards proposed by DoD/DoD Component.
3. REPORT AND REQUEST INSPECTIONS OF UNSAFE AND UNHEALTHFUL WORKING CONDITIONS to appropriate officials who include, in order of preference, the immediate supervisor, the safety or occupational health point of contact, the safety and occupational designee for your installation/facility, the installation/ facility commander, the

3. (Continued) safety and occupational health designee for your DoD component, the safety and occupational designee for DoD, and the Secretary of Labor. However, the Secretary of Labor encourages personnel to use DoD procedures for reporting hazardous conditions as the most expeditious means to achieve abatement. The hazard report form provided by your installation/facility should be used for this purpose. Anonymity, when requested, is assured.
4. PARTICIPATE in the installation/facility safety and occupational health program. Civilian workers shall be authorized official time to participate in the activities provided by the DoD safety and occupational health program.

OTHER INFORMATION:

1. When the safety or occupational health point of contact for your installation/facility is notified by a worker of a hazardous worksite condition, he/she will ensure an inspection of the worksite and he/she will report the results of the inspection in writing to the worker making the report.
2. Inspector General channels may be used to investigate complaints from either DoD civilian or military personnel concerning alleged acts of discrimination or reprisal due to participation in safety and occupational health activities. For DoD civilian personnel, allegations of reprisal may also be initiated by them

2. (Continued) in accordance with applicable appeal procedures, or administrative or negotiated grievance procedures.
3. For further information about the installation/facility safety and occupational health program, procedures, standards, committees, Federal laws, or other related matters, contact the safety or occupational health point of contact for your installation/facility as noted on this poster.
4. How well you carry out your safety and occupational health responsibilities will be an important factor in the success of the program.

DD FORM 2272, NOV 2000 PREVIOUS EDITION MAY BE USED.

Appendix E
EMERGENCY NOTIFICATION OF KEY STAFF

(DURING DUTY HOURS ONLY)

SGS	563-6154
SAFETY DIRECTOR	596-0116
CHIEF OF STAFF	563-6118
DPTMS	563-4038
PROVOST MARSHAL	596-0575

* A ROSTER WHICH INCLUDES HOME PHONE NUMBERS FOR OFF-DUTY ACCIDENTS WILL BE MAINTAINED WITH FLW IOC WATCH.

Appendix F
LOCAL SUPPORT OF CENTRALIZED ACCIDENT INVESTIGATION (CAI) BOARD

F-1. Preliminary Actions

a. Secure accident scene.

b. Obtain copies of personnel, medical and training records for all personnel directly involved in the accident. (OF 346 (US Government Motor Vehicle Operator's Identification Card) and DA Form 348 (Equipment Operator's Qualifications Record) if appropriate).

c. Identify and notify local board members.

d. Publish orders appointing investigation board.

e. Obtain any special security/access clearances necessary for access to the accident scene by board members.

f. Arrange for special transportation if required to reach the accident scene, i.e., tactical vehicles or aircraft.

g. Obtain items of immediate interest to the board as follows:

(1) List of personnel from whom blood and urine samples were taken.

(2) Witness information: name, rank, telephone number, summaries of any statement made.

(3) Serious Incident Report (SIR), Report of Serious Accident (ROSA), MP, CID reports if completed.

(4) Location, date, time and name of medical officer conducting autopsy.

(5) 1:50,000 map which indicates accident site.

(6) Directives that pertain to the operation being conducted which resulted in the accident.

(7) Weather statements (signed by forecaster).

h. Coordinate billeting of board members, if necessary with local housing office.

F-2. Administrative Support

a. The board will be assigned one typist capable of transcribing from tapes.

b. The work area assigned to the board will be large enough to conduct witness interviews and deliberations.

c. The board will be provided with maintenance—type work space needed for storage/technical inspection of equipment involved.

d. The board will be provided photo lab support to develop and print color photographs and develop and mount color slides.

Appendix G
SAMPLE OF AN ACCIDENT BOARD DUTY APPOINTMENT ORDERS

DEPARTMENT OF THE ARMY
U.S. ARMY MANEUVER SUPPORT CENTER OF EXCELLENCE
14000 MSCOE LOOP, SUITE 316
FORT LEONARD WOOD, MISSOURI 65473-8929

REPLY TO ATTENTION OF

ATZT-CG Date

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Accident Investigation Board Appointment Orders.

1. Under the provisions of AR 385-10, The Army Safety Program, 23 Aug 07, the following individuals are appointed as the Installation or Centralized Accident Investigation (IAI/CAI) board members for the class A, fatal accident that occurred on DATE near Fort Leonard Wood, MO.

BOARD PRESIDENT: (Voting)	Last Name, First, MI, Rank SSN: XXX-XX-LAST4 Address Phone #
BOARD RECORDER: (Voting)	Last Name, First, MI, Rank SSN: XXX-XX- LAST4 Address Phone #
BOARD MEDICAL OFFICER: (Voting)	Last Name, First, MI, Rank SSN: XXX-XX- LAST4 Address Phone #
BOARD MILITARY POLICE (Voting)	Last Name, First, MI, Rank SSN: XXX-XX- LAST4 Address Phone #
BOARD ADVISOR (Non-Voting)	Last Name, First, MI, Rank SSN: XXX-XX- LAST4 Address Phone #

2. The purpose of the board is to gather and evaluate evidence, determine causal and/or contributing factors, and prepare findings and recommendations to prevent future accidents. Individuals will be released from all other duties for the full-time participation in the subject investigation.

3. These appointment orders are subject and subsequent amendment/augmentation to include additional subject matter experts.

4. In accordance with the Health Insurance Portability and Accountability Act (HIPAA) (Public Law 104-191 enacted by Congress on 21 August 1996), I delegate my authority as a military commander to members of the board to access protected health information about individuals who are Armed Forces personnel when it is deemed necessary by the board president to assure the proper investigation of this accident.

5. Point of Contact for this memorandum is Safety Director, 573-596-1275.

Signature Block

DISTRIBUTION:
Accident Investigation Board Members

Appendix H
HOLIDAY SAFETY

Trees:

- When purchasing an artificial tree, look for the label "Fire Resistant." Although this label does not mean the tree won't catch fire, it does indicate the tree will resist burning and should extinguish quickly.
- When purchasing a live tree, check for freshness. A fresh tree is green, needles are hard to pull from branches and when bent between your fingers, needles do not break. The trunk butt of a fresh tree is sticky with resin, and when tapped on the ground, the tree should not lose many needles.
- When setting up a tree at home, place it away from fireplaces and radiators. Because heated rooms dry live trees out rapidly, be sure to keep the stand filled with water. Place the tree out of the way of traffic and do not block doorways.

Lights:

- Indoors or outside, use only lights that have been tested for safety by a recognized testing laboratory, which indicates conformance with safety standards.
- Check each set of lights, new or old, for broken or cracked sockets, frayed or bare wires, or loose connections, and throw out damaged sets.
- Use no more than three standard-size sets of lights per single extension cord.
- Never use electric lights on a metallic tree. The tree can become charged with electricity from faulty lights, and a person touching a branch could be shocked.
- Before using lights outdoors, check labels to be sure they have been certified for outdoor use.
- Fasten outdoor lights securely to trees, house walls, or other firm supports to protect the lights from wind damage. Use only insulated staples to hold strings in place, not nails or tacks. Or, run strings of lights through hooks (available at hardware stores).
- Turn off all lights when you go to bed or leave the house. The lights could short out and start a fire.
- For added electric shock protection, plug outdoor electric lights and decorations into circuits protected by ground fault circuit interrupters (GFCIs). Portable outdoor GFCIs can be purchased where electrical supplies are sold. GFCIs can be installed permanently to household circuits by a qualified electrician.

Decorations:

- Use only non-combustible or flame-resistant materials to trim a tree. Choose tinsel or artificial icicles of plastic or nonleaded metals. Leaded materials are hazardous if ingested by children.
- Never use lighted candles on a tree or near other evergreens. Always use non-flammable holders, and place candles where they will not be knocked down.
- In homes with small children, take special care to avoid decorations that are sharp or breakable, keep trimmings with small removable parts out of the reach of children to avoid the child swallowing or inhaling small pieces, and avoid trimmings that resemble candy or food that may tempt a child to eat them.
- Wear gloves to avoid eye and skin irritation while decorating with spun glass "angel hair." Follow container directions carefully to avoid lung irritation while decorating with artificial snow sprays.

Fireplaces:

- Use care with "fire salts," which produce colored flames when thrown on wood fires. They contain heavy metals that can cause intense gastrointestinal irritation and vomiting if eaten. Keep them away from children. Do not burn wrapping papers in the fireplace. A flash fire may result as wrappings ignite suddenly and burn intensely.

Appendix I
STANDARD ARMY SAFETY AND OCCUPATIONAL HEALTH INSPECTION (SASOHI) CHECKLIST FOR LOW HAZARD AND FLW FORM 944

This is a general checklist for use when inspecting low hazard administrative and barracks facilities. It does not include all possible hazards. Some items on this list will not apply to all work areas. Users should revise the form to suit individual facilities.

1 **Complete the header information below.**
2 **For each item, check Yes, No or N/A.**
3 **For every item marked No, enter the item number on the notes pages along with the corrective action you took or initiated.**
4 **When the deficiency has been corrected, indicate the date of correction.**
5 **After you have completed the inspection, sign below.**
6 **Maintain this form on file for one year.**

Organization: _____ Inspector (print):_____

Building/area inspected _____ Date: _____

Building Manager or POC:_____

SIGNATURE of INSPECTOR:_____PHONE:_____

ITEM NO.	***GENERAL***	*YES*	*NO*	***N/A***
1	Floor fans are properly equipped with center faceplates or guards to prevent injury. (Openings can be no larger than ½ inch, unless the fan is at least 7 feet above the floor.)			
2	Paper cutters have finger guards.			
3	Elevated storage areas have load limits calculated by an engineer and signs are posted.			
4	Fluorescent lights are secured with holders or covers.			
5	There are no tripping hazards in walkways. (Cables or cords across walkways, items left sitting in walkways, loose boards, or protruding nails, etc.)			
6	OSHA poster (DD Form 2272) is posted on employee bulletin boards.			
7	Good housekeeping is practiced to avoid fire hazards, tripping hazards, slipping hazards, and other possible hazards from clutter or spilled liquids.			
8	Chairs are free of obvious hazards (Loose casters or rungs, legs or backs that are not sturdy, etc.)			
9	Chairs are equipped with the proper type of casters/wheels for the surfaces on which they are used. (Chairs designed for use on carpeted surfaces can be hazardous on tile floors because they roll too easily.)			
10	Chairs equipped with casters/wheels have at least five legs.			
11	File drawers are not left open when not in use.			
12	File cabinets are arranged so that opened drawers do not protrude into walkways.			
13	File drawers are opened one at a time, to avoid tip over.			
14	Storage cabinets and closets have heaviest items on lower or middle shelves. Items are stored in a stable manner to prevent tipping or falling.			
15	Carpets are secured to the floor and free of worn or frayed seams.			

16	Water pipes and fixtures are free of leaks or drips.			
17	Batteries are in tightly sealed containers if stored in the same refrigerator with food.			
18	Consumption of food and beverages is allowed **only** in areas where there will be no exposure to toxic substances or contaminates.			
19	Hand washing facilities are located near all latrines. Facilities must include soap, water, and towels OR waterless hand sanitizer.			
20	Work areas are adequately illuminated. (Direct questions regarding illumination, to MEDDAC, Preventive Medicine, Industrial Hygiene, 6-0064.)			
21	Furniture is free of physical defects, e.g. broken, cracked, or splintered.			
22	Personnel use proper techniques while performing lifting or other physical tasks.			
23	The unit has appointed an individual who has (or will) attend the MEDDAC Office Ergonomics class.			
24	Good ergonomics principles are practiced by employees. (Check for persons who appear to be sitting in awkward positions at computers, whose feet do not sit comfortably on the floor when seated, and whose computer monitors are positioned at an angle that could cause neck pain or eyestrain from light glare on the screen, etc.)			
25	Personnel who use computers or keyboards for long periods have had ergonomics assessments performed, a file copy is on hand.			
ITEM NO.	***FIRE PREVENTION***	*YES*	*NO*	***N/A***
26	Fire extinguishers are properly mounted, located, and identified to employees. Building fire extinguishers are the property of the Fire and Emergency Services Div., do not remove or relocate except for firefighting or maintenance.			
27	Fire extinguishers are not blocked or obstructed, preventing access.			
28	Fire extinguishers are properly charged.			
29	Smoke detectors are free of obstructions. Direct questions regarding smoke detectors, to the Fire and Emergency Services at 6-0886. NEVER test a smoke detector or fire alarm system.			
30	Fire alarm pull stations are free of obstructions. Direct questions regarding fire alarm systems to the Fire and Emergency Services at 6-0886. NEVER test a fire alarm system.			
31	Flammables and combustibles (oil, paint, solvent, grease, cleaning products, gasoline, etc.) are properly stored in approved flammable storage cabinets.			
32	Flammable storage cabinets are properly marked “Flammable – Keep Fire Away”.			
33	Flammable storage cabinets are not located near an exit door or in the pathway leading to an exit.			
34	An appropriately rated fire extinguisher is located in the vicinity flammable storage cabinets.			

35	Coffee makers are not connected to an external timer. Hot plates are not permitted.			
36	Clothes dryers are properly vented (ducts are properly connected, have no holes, are not crimped, and no length exceeds 4 feet.)			
37	911 Emergency phone numbers (Fire Department, Ambulance, etc.) are posted on all telephones. Building number/name and street address is posted on or near all phones.			
38	Items are not stored within 18 inches of fire suppression system sprinkler heads.			
39	There are no furnishings and decorations of highly flammable or explosive composition in the facility.			
40	Smoking areas are properly designated and disposal facilities are provided for smokers' refuse. There are no signs of unauthorized smoking.			
ITEM NO.	***ELECTRICAL***	*YES*	*NO*	***N/A***
41	All electrical equipment, including buffers, floor fans, refrigerators, and other equipment, is equipped with plugs with grounding prongs, unless they were manufactured with only two prongs/wires.			
42	All electrical cords on equipment are free of cracks, breaks, fraying, exposed wiring, or other obvious hazards. Flexible cords and cables are free of splices and tape. Plugs are in good condition, not loose and not missing the faceplate. Prongs are not loose or bent.			
43	Cords are not routed under carpets, rugs, or heavy objects, or through walls, doors, ceilings, or storage cabinets.			
44	Electrical equipment on/off switches are fully operational and free of defects.			
45	Extension cords are not being used in place of permanent wiring. (They are considered to be permanent wiring if attached to the building in a manner that requires a tool to remove them, e.g. if the outlet box portion is nailed to the wall or floor, etc).			
46	Extension cords are not used with high-amperage or heat producing equipment, i.e., refrigerators, microwave ovens, space heaters, coffee pots.			
47	Use of extension cords on a permanent basis is not permitted. Exception: proper extension cords (correct amperage rating, in good condition) may be used for items of equipment that are only operated occasionally, for short periods of time, or for equipment that uses a small amount of amperage (computer equipment).			
48	Electrical outlets, including multi-outlet extension cords, are not overloaded or connected in series. Extension cords cannot be connected in a series, "daisy chained".			
49	The rating of the extension cord is appropriate for the total electrical load it will carry.			
50	Homemade extension cords are not permitted. Only UL approved cords are authorized.			

51	Computer equipment is plugged into surge protector strips. Damaged or unserviceable strips will be removed from service immediately upon discovery.			
52	Circuit breaker boxes do not have exposed wires or missing knockouts.			
53	Circuit breaker boxes are easily accessible, not blocked by other items and are not difficult to open (e.g., taped shut, locked, etc)			
54	Circuit breaker boxes have clearly legible directories inside listing which items/circuits are controlled by each breaker.			
55	Electrical conduits are not broken or loose, exposing the wiring.			
56	Electrical outlet faceplates are not missing, broken or loose.			
57	Electrical outlets (receptacles) are not missing, broken or loose.			
58	Light switch covers are not missing, broken or loose.			
59	Light switches are not missing, broken, or loose.			
60	Exterior light fixture boxes are properly enclosed.			
61	All light fixtures (if designed to be equipped with a globe or cover) are properly equipped. Bare light bulbs will be a minimum of 18" away from combustibles.			
62	Washing machines are properly grounded, either with a ground prong on the plug or with a properly-connected ground wire.			
63	Light fixtures in showers are properly covered with approved globes.			
64	Outlets in wet or damp areas (e.g., bathrooms, kitchens, janitorial closets, outdoors, etc.) are equipped with ground-fault circuit interrupters (GFCIs). The GFCI may be either a part of the outlet or a part of the circuit breaker.			
65	All-weather outdoor electrical receptacles are free of cracks or breaks.			
ITEM NO.	***WALKWAYS, AISLES, FLOORS, EXITS, AND STAIRS***	*YES*	*NO*	***N/A***
66	Floors, aisles, doorways, and passageways are clean, dry, level, free of debris, obstructions, protruding nails, splinters, holes, and loose boards.			
67	Shower floors and similar wet-surface areas are covered with non-slip material.			
68	Doors that swing in both directions and that are located between rooms where there is frequent traffic have eye-level viewing panels in each door.			
69	Exit access and exits are readily accessible at all times.			
70	All exit signs are readily visible.			
71	Emergency exit passageways are adequately illuminated.			
72	The directions to exits, when not immediately apparent, are marked with visible directional signs.			
73	Exit doors leading from areas housing 100 or more occupants are equipped with panic hardware.			

74	Doors and other passageways that are not exits, but that may be mistaken for exits, are appropriately marked (e.g., “NOT AN EXIT,” “TO THE BASEMENT,” “STOREROOM,” etc.).			
75	Exit routes are free of obstructions.			
76	Exit routes do not pass through kitchens, storerooms, rest rooms, closets, or similar spaces that could be subject to locking.			
77	All doors that are passed through to reach an exit, or the path to an exit (egress route), are free to access, with no possibility of a person being locked inside.			
78	Exit doors open outward, are easily opened, are not locked or fastened when the building is occupied, and are fully operational (without sticking, e.g.). If exit doors are locked, they must be easily unlocked from the **inside** without the use of a key or specific knowledge or effort. NOITE: Deadbolts on exit doors are specifically prohibited.			
79	Fire doors are not propped or tied in the open position while the building is occupied.			
80	Where exit doors open to a change in elevation of 12 inches or more, stairs or ramps are provided to negotiate the difference.			
81	Floor elevations on both sides of an exit door do not vary by more than ½ inch.			
82	Floor elevations are maintained on both sides of the doorway for a distance not less than the width of the widest door in the exit.			
83	Stairways are properly illuminated. Emergency lighting units are fully operational.			
84	Stairways or steps having 4 or more risers (steps) have standard stair rails or handrails.			
85	The open sides of all exposed stairways and platforms have standard railings.			
86	Stairway handrails are located between 30 and 34 inches above the leading edge of stair treads. Handrails have at least 3 inches of clearance between the handrails and the wall or surface on which they are mounted.			
87	All stairways are at least 22 inches wide, in good condition, and are slip resistant.			
88	Stairs have at least a 7-foot overhead clearance.			
89	Stairway platforms are at least 30 inches long.			
90	Stairs and steps are uniform in height (riser) and depth (tread).			
91	If stairs are carpeted, the carpeting is well secured and the steps are clearly defined.			
92	There is no storage in stairwells.			
93	Platforms and balconies more than 4 feet above the floor are protected with standard guardrails. (Stairs to these areas must have rails.)			
94	When people or machinery could be exposed to falling objects from overhead platforms, lofts, or balconies, those overhead areas must be guarded with standard 4-inch toe boards.			

95	Aisle or walkway surfaces more than 30 inches above any adjacent floor or the ground have standard guardrails.			
96	Sidewalks are level and free of cracks.			
97	Tree limbs are trimmed to a height of not less than 7 feet above sidewalks.			
ITEM NO	***CHEMICALS***	***YES***	***NO***	***N/A***
98	Chemicals in administrative work areas are limited to common household cleaners, i.e., pine oil cleaner, window cleaner, white board cleaner, floor wax, copy machine toner, and similar substances.			
99	All containers chemicals are properly labeled. The label must clearly identify the contents. Original containers have a consumer warning label, listing the hazards and preventive measures associated with the product. If chemicals are transferred to different containers (such as portable spray bottles), those containers are labeled with the same information.			
100	Employees using chemicals must follow the instructions on the containers, including any recommended precautions and use of any items of PPE (for example, rubber gloves, safety goggles, etc.).			
101	Chemicals are not stored with or near food or in areas where food is prepared or consumed.			
102	Personnel using chemicals wash their hands after each use.			
103	Material Safety Data Sheets (MSDSs) are readily available for all chemicals used in the work area.			
ITEM NO.	***LADDERS, TOOLS, MISC***	***YES***	***NO***	***N/A***
104	Defective ladders are removed from service, tagged, and set aside for repair or destruction.			
105	Ladders have non-slip safety feet.			
106	Wheels/casters have positive wheel and/or swivel locks, to prevent movement.			
107	Ladder rungs and steps are free of grease and oil.			
108	A ladder cannot be placed in front of any door that opens toward it, unless the door is blocked open, locked, or guarded.			
109	Ladders are placed on stable footing; not on boxes, barrels, or other unstable bases, to gain additional height.			
110	The top step of an ordinary stepladder is not used as a step.			
111	When a portable rung ladder is used to gain access to an elevated platform, a roof, or other elevated area, the ladder must always extend at least 3 feet above the elevated surface.			
112	When portable rung or cleat type ladder is used, the base is placed in a manner that will prevent slipping such as lashing.			
113	Personnel do not adjust extension ladders except while standing at the base (not while standing on the ladder or			

	from a position above the ladder).			
114	Portable metal ladders are marked with signs warning to not use them around electrical equipment. Metal ladders are not used in areas where the ladder or the person using it could come into contact with energized parts of equipment, fixtures, or circuit conductors or into contact with electrical lines.			
115	Hand tools are in good working condition, tips of screwdrivers are not worn, handles are in good repair and free of splinters, etc.			
116	Wrenches are not rounded off and are free of grease and oil.			
117	Drill bits are not broken or dull.			
118	Handles of rakes and shovels are free of splinters, cracks, breaks, and not painted over or taped.			
119	Chainsaws are properly maintained, chains sharpened,			
120	Power tools have proper guards; safety features are functional, free of defects.			
121	Personal Protective Equipment (gloves, eyewear, hearing protection, footwear, etc.) is fully serviceable and in ample supply for unit needs.			
ITEM NO.	***MECHANICAL ROOMS, BUILDING EXTERIOR AND GROUNDS***	***YES***	***NO***	***N/A***
122	Only DPW locks are placed on mechanical room doors, (unit should **not** have access), signs are posted, doors are properly secured and in good repair.			
123	Mechanical room stairwells are free of unit storage, i.e., fuel cans, stockpiles of wood, lockers, lawn mowers, etc.			
124	There is no erosion of the soil or walkways.			
125	Downspouts, drain pipes, etc. are secured to the structure.			
126	Lawn mowers, gas cans, etc. are stored only in approved and locked storage facilities, signs are properly posted.			
127	Vehicle parking is not blocking entrance or exit to any building, fire lanes are properly maintained.			

Item	***ADDITIONAL FINDINGS***

ITEM NO	CORRECTIVE ACTIONS REQUIRED OR TAKEN	DATE CORRECTED

FACILITY SAFETY INSPECTION RECORD		
UNIT/ORGANIZATION:		BLDG#:
INSPECTED BY (Military ADSO/Civilian CDSO):		
HAS THE INSPECTOR ATTENDED MSO SAFETY OFFICER COURSE: ____YES ____NO		
POC Phone Number/email:		
IF SO WHEN DID THEY ATTEND? (MMYY):		
Date:	Deficiencies Noted:	Corrective Actions:

Instructions:

1. Follow-up to ensure that all identified deficiencies have been corrected.

2. Submit safety related work orders through the MSCoE Safety Office.

3. Complete in one copy, by pen, and retain in unit files for one year, forward a copy of the completed inspection to the MSCoE Safety Office each

FLW Form 944 (Rev Apr 2013)

Appendix J
TRADOC STATEMENTS FOR MOTORCYCLE/ALL-TERRAIN VEHICLE OPERATOR RESPONSIBILITIES

TRADOC Statement for Motorcycle Operator Responsibilities (Soldiers)

1. I am a Soldier in the U.S. Army or military service member from another service or country assigned to a TRADOC organization. I have identified myself as a potential motorcycle rider (current or future). I understand my responsibility as an operator of a motorcycle to ride in a safe manner and IAW the provisions of local laws, DOD and Army regulations, directives, and local policies.

2. I understand that before I operate a motorcycle (either street or off-road) on or off a DOD installation and on or off duty, I will be appropriately licensed (except when not required by the Status of Forces Agreement or local laws), will successfully complete a Motorcycle Safety Foundation (or a Motorcycle Safety Foundation based state approved) course, and comply with the PPE requirements stated in paragraph 3.

3. As an operator of a government and/or privately owned motorcycle (either street or off-road versions) I understand that all motorcycle safety equipment will be fully operational and the headlight turned on at all times (when equipped). Whenever I operate a motorcycle, I will wear the appropriate PPE. I am aware the **minimum PPE requirements** are: a U.S. Department of Transportation approved helmet properly fastened under the chin (even if the state does not require it); impact or shatter resistant goggles or full-face shield properly attached to helmet (a windshield or eye glasses alone are not proper eye protection); sturdy footwear is mandatory (leather boots or over the ankle shoes are strongly suggested); long sleeve shirt or jacket, long trousers and full fingered gloves or mittens; a brightly colored outer upper garment during the day, and a reflective upper garment during the night.

4. **Local, State and Installation:**

a. I, _____am stationed at _____ and the installation motorcycle requirements here include: _____.

b. The motorcycle requirements for the state I am located in are: _____
_____
_____.

5. **Cautions and Hazards:** I fully understand my responsibility to comply with all requirements for motorcycle operation and these requirements apply to me on and off duty, on or off post. **I will never ride while under the influence of drugs or alcohol. I will avoid riding at an excessive speed. I will be extra cautious while riding over difficult terrain**.

6. **TRADOC's goal** is to ensure that I am fully aware of the hazards and risks associated with motorcycle operation and that I fully and freely accept the responsibility for operating IAW the laws, regulations, and policies listed above. I acknowledge I have been briefed on and understand the information provided above.

_____ _____
Soldier Signature/Date Commander/1SG/Supervisor Signature/Date

TRADOC Statement for All-Terrain Vehicle (ATV) Operator Responsibilities (Soldiers)

1. I am a Soldier in the U.S. Army or military service member from another service or country assigned to a TRADOC organization. I have identified myself as a potential ATV rider (current or future) and I understand my responsibility as an operator of an ATV to ride in a safe manner and IAW the provisions of local laws, DOD regulations, directives, and local policies.

2. I understand that at a minimum the personal protective equipment requirements for ATV operations include: U.S. Department of Transportation approved helmet, sturdy boots or over the ankle shoes, gloves, goggles, long sleeve shirt, and long pants. For off-road use in areas with brush or rock, it is recommended to wear off-road high top motorcycle boots with shin and brush protection.

3. **Approved ATV Age and model size requirements.** There is no standard that dictates minimum age for ATV operation. However, the current voluntary standard, recommended by the six major ATV distributors (American Honda, American Suzuki, Polaris Industries, Yamaha Motor, Kawasaki Motors, and Arctic Cat) and the Consumer Safety Product Commission for age and ATV size are: less than 70cc, age six and older; 70cc up to and including 90cc, age 12 and older; greater than 90cc, age 16 and over.

4. **Training**. I understand that an ATV is not an easy vehicle to operate, and reading the owner's manual or watching a video may not provide adequate training. Information on available training can be obtained from either a local motorcycle/ATV dealer, by calling (800) 887-2887 (ATV Enrollment Express), or by visiting the ATV Safety Institute at www.atvsafety.org and clicking on rider training.

5. **Age, registration, license and insurance.** Licensing requirements vary from state to state and it is my responsibility to operate IAW state requirements. I also understand that I need to check other state requirements if I operate my ATV away from the local area. State licensing and registration information can be found at www.atvsafety.org.

a. I _____am stationed at _____ and ATV requirements here are: _____
_____.

b. I understand the state requirements for ATVs are: _____
_____.

6. **Cautions and hazards.** I understand that formal training and a full understanding of the cautions and hazards associated with ATV operation is required before I operate an ATV. I will never drive an ATV on paved roads, I will never drive while under the influence of drugs or alcohol, I will avoid riding at an excessive speed and I am responsible for anyone I allow to operate my ATV.

7. **TRADOC's goal** is to ensure that I am aware of the hazards and risks identified for ATV operation and that I fully and freely accept the responsibility for operating IAW the laws, regulations, and policies listed above. I acknowledge I have been briefed on and understand the information provided above.

_____ _____

Soldier Signature/Date

Commander/1SG/Supervisor Signature/Date

TRADOC Statement for All-Terrain Vehicle (ATV) Operator Responsibilities (DOD Civilian)

1. I am a Department of Defense (DOD) civilian assigned or attached to a TRADOC organization. I have identified myself as a potential ATV rider (current or future) and I understand my responsibility as an operator of an ATV to ride in a safe manner.

2. I understand that the personal protective equipment requirements for ATV operations on a DOD installation (strongly recommended for all operation) include: U.S. Department of Transportation approved helmet, sturdy boots or over the ankle shoes, gloves, goggles, long sleeve shirt, and long pants. For off-road use in areas with brush or rock, off-road high top motorcycle boots with shin and brush protection is recommended.

3. **Approved ATV age and model size requirements.** There is no standard that dictates minimum age for ATV operation. However, the current voluntary standard, recommended by the six major ATV distributors (American Honda, American Suzuki, Polaris Industries, Yamaha Motor, Kawasaki Motors, and Arctic Cat) and the Consumer Safety Product Commission for age and ATV size are: less than 70cc, age six and older; 70cc up to and including 90cc, age 12 and older; greater than 90cc, age 16 and over.

4. **Training**. I understand that an ATV is not an easy vehicle to operate, and reading the owner's manual or watching a video may not provide adequate training. Information on available training can be obtained from either a local motorcycle/ATV dealer, by calling (800) 887-2887 (ATV Enrollment Express), or by visiting the ATV Safety Institute at www.atvsafety.org and clicking on rider training.

5. **Age, registration, license and insurance.** Licensing requirements vary from state to state and it is my responsibility to operate IAW state requirements. I also understand that I need to check other state requirements if I operate my ATV away from the local area. State licensing and registration information can be found at www.atvsafety.org.

a. I _____am stationed at _____ and ATV requirements here are: _____
_____.

b. I understand the state requirements for ATVs are: _____
_____.

6. **Cautions and hazards.** I understand that formal training and a full understanding of the cautions and hazards associated with ATV operation is required for safe operation of an ATV. I also understand that driving an ATV on paved roads, driving while under the influence of drugs or alcohol or at an excessive speed may greatly increase my risk. I am also aware that I am responsible for anyone I choose to allow to operate my ATV.

7. **TRADOC's goal** is to ensure that personnel who operate ATVs are aware of the hazards and risks identified for ATV operation and understand their responsibility safe operation. I acknowledge that I have briefed the individual identified in paragraph 4a above on the information provided.

_____ _____
Supervisor Signature/Date Civilian Signature/Date (optional)

APPENDIX K
EXAMPLE OF A SPECIALTY VEHICLE POLICY

AZXX-XX Date

MEMORANDUM FOR Record

SUBJECT: XXX Battalion Specialty Vehicle policy

1. Purpose. The purpose of this memorandum is to provide policy and standard operating procedures for the operation of specialty vehicle such as: Gators, ATVs, and "Mule" utility vehicles.

2. Background. Any Military Police Soldier operating in the normal scope of duties may be required to utilize specialty vehicles as described above. These specialty vehicles offer high mobility while patrolling in areas not conducive to that of a normal patrol vehicle such as an automobile, pickup truck, or a sport utility vehicle. These vehicles afford the Soldier the opportunity to respond rapidly to incidents which require law enforcement or first responder assistance. By operating these vehicles the Soldier engages in duties that place him/her at an inherent risk of injury if proper risk mitigation is not incorporated into the training and operation of the vehicle. This memorandum will establish certain standard operating procedures that will allow the operator to mitigate the risk this vehicle possesses.

3. Discussion.

a. Qualification and Training: The BN Master Driver is charged with maintaining the driver instruction and training program for specialty vehicles. The training will be consistent with the safety orientation and operation instructions provided in the manufacturer's operation manual. Training will also include instruction on safe motor vehicle operations *(Ref. Safe motor vehicle operations AR 385-10, Section 11-4, paragraph m).* Upon successful completion of training all qualified operators will maintain the specialty vehicle qualifications by having it annotated on their DA Form 348 and OF Form 346 (U.S. Government Operators Motor Vehicle Operator's Identification Card). Additional training will include on-the-job drivers training conducted by the operation's OIC, in which such training will be annotated and maintained at the unit level.

b. Operational Work Areas: The only authorized operational work areas for any specialty vehicles required for any duty necessitating a specialty vehicle include: Lake of the Ozarks Recreational Area (LORA), on installation (FLW), and any military installation in which a Soldier assigned to the 92nd MP BN may be required to utilize any non-tactical specialty vehicle. Specialty vehicles will not be driven on public roads except to cross the roadway and it will only be driven on a public roadway at designated crossing points or with a road guard.

c. Intended Use of a Specialty Vehicle: Specialty vehicles shall only be utilized for the purpose of executing a law enforcement mission. Any specialty vehicle assigned as U.S. Government property shall not be used for off-duty recreation, and at no time will horse-play be allowed on or around the vehicle while on-duty. Non–tactical specialty vehicles that are allowed to operate outside a controlled work area and on installation streets, roads, and highways will meet the minimum vehicle safety standards in accordance with 49 CFR 571.5, to include rollover protection, occupant protective devices, and placement of "Slow Moving Vehicle" emblems where required.

d. Occupancy and Carrying Capacity: Operators will not exceed the recommended load carrying capacity, personnel capacity, or maximum safe vehicle speed. Cargo items will be secured as necessary to prevent tipping. Occupant protective devices will be worn by operators and passengers of specialty vehicles where installed by the manufacturer. Adequate head protection is required for operators and passengers operating or riding in tactical specialty vehicles and for operators and passengers of non-tactical vehicles operated outside of the designated operational work areas.

e. Personal Protective Equipment: Operators of tactical specialty vehicles will wear approved head protection (helmet) that at a minimum conforms to DOT 218 standards or equivalent, protective goggles or face shield, full fingered gloves, long sleeve shirt or jacket, long trousers, and over the ankle boots. Commanders may authorize the use of helmets that offer ballistic protection in lieu of DOT 218 standards when the tactical situation dictates such use. Operators will wear approved head protection (helmet) that at a minimum conforms to DOT 218 motorcycle safety standards or equivalent, and passengers of non-tactical specialty vehicles that are not equipped with manufacturer installed rollover protection, and are operated on installation or public roads that are outside the designated operational work area.

4. Exceptions to this policy are at the discretion of the Battalion Commander.

COMMANDER'S SIGNATURE BLOCK

Appendix L
JOB HAZARD ANALYSIS WORK SHEET

JOB HAZARD ANALYSIS WORK SHEET	JOB TITLE OR OPERATION	DATE	PAGE ___OF___ JHA NO. _____	NEW REVISED
COMPLETED BY	EMPLOYEE/OPERATOR	SUPERVISOR	REVIEWED BY	
COMPANY/ORGANIZATION	WORK SECTION/DEPARTMENT		APPROVED BY	

BASIC JOB STEPS, IN SEQUENCE	POTENTIAL HAZARDS	RECOMMENDED PREVENTATIVE MEASURES

INSTRUCTORS FOR JOB HAZARD ANALYSIS FORM

The following lists the columns on the form and explains how to complete each.

JOB TITLE OR OPERATIONS - List the title of the job or operation being analyzed. For example, Pipefitter, Warehouseman, or Changing a Flat Tire.

DATE- The date the JSA is being completed.

PAGE_____OF _____ - Indicate which page of the JSA for this job this page this is and the number assigned to the JHA, if one has been assigned.

NEW/REVISED –If this is the first time this job has been analyzed, check NEW. If this is a revision of a previous JSA for the job, check REVISED.

COMPLETED – The typed or printed name of the person who completed the JHA. This will usually be the supervisor of the employee whose job is being analyzed.

EMPLOYEE/OPERATOR – This will be the name of the person whose job is being analyzed. IF there is more than one employee in the same position, list the one who was used to demonstrate the steps of the job for you.

SUPERVISOR – The immediate supervisor of the employee whose job is being analyzed. This will often be the same as the COMPLETED BY person.

REVIEWED BY –If someone in your organization or unit is assigned to review the completed JSA, his typed or printed name should be included here. When he has reviewed it, he should initial next to his name.

COMPLAY/ORGANIZATION - The name of your company or organization.

WORK SECTION/DEPARTMENT- This could be, for example, Maintenance Section, Electrical Section, Fabric Repair Department, or so on. In some cases, it will not be necessary to complete this block.

APPROVED BY- If someone in your organization has been designated to approve the JSA, his name should go here. When he has approved it, he should initial next to the name.

REQUIRED/RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT – List any PPE or protective clothing that should be used by the employee. Be specific. For example, do not simply say “gloves.” Instead, list a specific type of gloves.

BASIC JOB STEPS, IN SEQUENCE – List the major steps taken in performing the job, in their chronological order.

POTENTIAL HAZARDS – Next to each Basic Job Step, list the hazards associated with that step. Be complete and specific. Use action verbs, such as “Cut by blade or knife,” or “Struck by spinning handle of machine.”

RECOMMENDED PREVENTIVE MEASURES – For each Potential Hazard, list control measures to eliminate or mitigate the hazard.

For additional information regarding the proper completion of a JHA, see the MSCoE Safety Office.

Appendix M
GENERAL RESPIRATOR INFORMATION

M-1. Respirator Selection.

a. Respirators shall be selected and used based on the hazards to which the worker is exposed, the work environment and the characteristics and limitation of the respirator. RPE shall be used only for the purposes intended and no modifications of the equipment shall be made.

b. All respiratory protective systems used shall carry NIOSH approval.

c. Respiratory protection is not required if airborne contaminants do not exceed current PEL. Cartridge or filter type dust respirators are generally adequate for airborne levels not exceeding ten times the PEL of the substance(s) for which they are approved. Organic vapor cartridges are adequate for ten times the PEL of the organic vapor involved or 1000 parts per million (PPM), maximum, whichever is less.

d. Air-supplied respirators are required for levels in excess of those for which filtering or purifying types are approved. Only emergency entries by personnel wearing SCBA are permitted into spaces in which oxygen deficiencies or vapor concentrations are immediately dangerous to life or health. A space is considered IDLH if a person wearing a respirator could not escape without the respirator (rapidly debilitating concentrations), or if a person could escape but would suffer serious and permanent health impairments.

e. The correct respirator shall be specified for each applicable job. Respiratory protection requirements for all new or revised processes shall be determined during the technical review made by IH.

f. Components of respirators will not be interchanged/ mixed with different manufacturers of components. Design configurations do not permit mixing of components which may actually permit the entrance of contaminants.

M-2. Factors which influence respirator selection. Respirators are selected with consideration of the following factors –

a. Nature of the hazard - this factor has several important aspects:

(1) The physical state of the air contaminant; e.g., dust, fume, mist, or chemical vapor; the physical state determines some limitation of the respirator.

2) The relative toxicity of the material; e.g., trichloroethylene is more toxic than trichloromethane. Brazing fumes from cadmium alloys are more toxic than fumes from steel alloys, etc.

(3) The rate at which the contaminant affects the human body; e.g., excessive concentrations of silica dust, although hazardous, will not cause immediate effect; however, an excessive concentration of chlorine gas can overcome an individual almost instantly, making escape impossible.

(4) The possibility that more than one air contaminant in different physical states may be involved; with the exception of a few special purpose cartridges, air-supplied respirators are usually necessary for such combinations.

b. Extent of the hazard - this factor includes the anticipated airborne concentrations and physical area in which the hazard exists.

c. Work requirement and conditions - this factor includes proximity to the source of the airborne contamination and physical restrictions of the working area.

M-3. Respirator limitations. Limitations on respirator suitability are a primary aspect of respirator selection.

a. The respirator must be matched to the hazard; e.g., a dust filter will provide no protection against chemical vapors and an organic vapor cartridge will provide very little protection against hazardous dusts.

b. Combinations of hazardous substances in different physical states generally require an air-supplied respirator or occasionally a chemical cartridge/filter combination. Respirator types generally fall into two classes air-purifying respirators and atmosphere supplying respirators.

c. Air-purifying respirators (general limitation).

(1) Air-purifying respirators do not protect against oxygen-deficient atmospheres, or against skin irritations, or absorption through the skin of airborne contaminants.

(2) The maximum contaminant concentration against which an air-purifying respirator will protect is determined by the design efficiency and capacity of the cartridge, canister, or filter and the face piece to face seal on the user. For gases and vapors, the maximum concentration for which the air purifying element is designed is specified by the manufacturer or is listed on labels of cartridges and canisters.

(3) Non powered air-purifying respirators will not provide the maximum design protection specified unless the face piece is carefully fitted to the wearers face to prevent inward leakage. The time period over which protection is provided is dependent on canister, cartridge, or filter type; concentration of contaminant;
humidity levels in the ambient atmosphere; and the wearer’s respiration rate or organic phosphate pesticides. Face pieces present special problems to individuals required to wear prescription lenses. Use of atmosphere supplying respirators in an atmosphere IDLH is limited to specific devices under specific
conditions.

(4) SCBA - the wearer carries his own breathing atmosphere. The period over which the device will provide protection is limited by - the pressure (service life of open circuit devices is cut in half by a doubling of atmospheric pressure) and the type of work being performed. Some SCBA devices have a short service life (less than 15 minutes) and are suitable only for escape (self rescue from an irrespirable atmosphere). Chief limitation of SCBA devices is their weight or bulk or both, limited service life and the training required for their maintenance and safe use.

(5) Supplied air respirators (air-line) - the respirable air supply is not limited to the quantity the individual can carry and the devices are lightweight and simple. This device is limited to use in atmospheres from which the wearer can escape unharmed without the aid of the respirator. The wearer is restricted in
movement by the hose and must return to a respirable atmosphere by retracting his route of entry. The hose is subject to being severed or pinched off.

M-4. Medical Qualification Respirator Fit-Test and Issuance.

a. Employees requiring the use of respirators for protection against airborne contaminants are identified by United States Army Medical Activity (MEDDAC), PMS.

b. MEDDAC, Occupation Health Section will schedule medical qualification exams and notify individual respirator users.

c. The medically qualified individual is fit tested by a qualified person in the unit.

d. The supervisor will generate a list consisting of: the respirator user's name, social security number, the results of fit tests and date fit test was conducted.

e. The unit will request respirators and accessories through normal supply channels.

f. Medical qualification exams will be updated based on Army and OSHA requirements where specific regulations apply. In other cases the frequency will be based on occupational and age related risk factors as determined by the occupational health section.

M-5. Respirator User Inspection Guide.

a. General.

(1) All respirators shall be inspected for obvious defects by the user prior to use.

(2) Emergency respirators (e.g., SCBA) shall be inspected monthly and after each use. A log shall be maintained by the cognizant shop/department to document these inspections.

b. Single-use dust respirators. Single-use dust respirators shall be visually inspected for damage before use.

c. Air-purifying respirators.

(1) Face pieces shall be free of the following defects, as applicable:

(a) Excessive dirt.

(b) Cracks, tears or deterioration.

(c) Distortion.

(d) Inflexibility.

(e) Cracked or badly scratched lenses.

(f) Incorrectly mounted lenses.

(g) Poorly seated inhalation and/or exhalation check valves.

(2) Straps shall be free of the following defects, as applicable:

(a) Breaks.

(b) Loss of elasticity.

(c) Broken buckles.

(d) Worn serration or missing tabs on the head harness that may permit slippage.

d. Air-supplied respirators (half mask or full face).

(1) Inspect face piece and straps.

(2) If the device has a corrugated breathing tube, examine it for deterioration by stretching the tube and looking for cracks.

(3) Examine the respirator components for accumulation of dirt, grit, oil, etc.

e. Air-supplied hoods shall be inspected for holes and tears prior to use.

M-6. Respirator Maintenance (Cleaning, Washing, Sanitizing, and Storing)

A respirator used by an individual should be cleaned and sanitized after each day of use. Respirators used by more than one individual MUST BE cleaned and sanitized between users. The following procedures should be followed when cleaning, washing, sanitizing, and storing respirators.

a. Disassemble by removing the cartridges, pre-filters, headbands, and other parts.

b. Clean and sanitize (using a cleaner-sanitizer such as Mine Safety Appliance (MSA) Cleaner-Sanitizer, Part No. 34337) the masks and other parts (excluding filters and cartridges) by immersing in warm cleaning solution (about 120 degrees Fahrenheit) and scrub with soft brush until clean. Take care to clean the exhalation valve in the face piece and all other parts.

c. Rinse in fresh warm water about 120 degrees Fahrenheit and air dry in a non-contaminated atmosphere.

d. Respirator components, especially the exhalation valve and seat, should be inspected and any worn or deteriorated parts should be discarded and replaced with new parts. Some uncorrectable defects may include, but are not limited to the following:

(1) Cracks, tears, pits, decomposition, stiffening, swelling and distortion of rubber or silicone rubber.

(2) Distorted or badly worn plastic adapters.

(3) Rubber inhalation valve flap that is stiffened, decomposed, or contains cuts.

e. It is important that the headband of the respirator be in good operating condition. A defective headband may prevent proper sealing of the respirator face piece to the face. Uncorrectable defects may include the following:

(1) Snap fasteners on headbands and on face piece that are worn, distorted, or loose.

(2) Plastic filter cover that is cracked or distorted.

(3) Plastic exhalation valve seat that is distorted, or contains scratches or cracks on its sealing surface.

(4) Rubber exhalation valve flap that is stiffened, distorted, decomposed or contains cuts.

f. It is important that the exhalation valve be in perfect operating condition. A defective exhalation valve may allow contaminated air to leak into the interior of the respirator and thus endanger the respirator wearer. Check for an exhalation valve cover that is distorted or decomposed.

g. Store respirator in a clean sealable plastic bag in a dry location which is away from atmospheric contaminants. Do not distort rubber face piece during storage.

Appendix N
EXAMPLES OF EQUIPMENT/SYSTEMS REQUIRING LOCKOUT/TAGOUT

N-1. Examples of equipment/machines requiring isolation from energy sources while performing maintenance or repair.

a. Boilers: High and low pressure.

b. Heating/ventilation/air conditioning equipment.

c. Air compressors.

d. Motors and pumps.

e. Steam, water, gas lines.

f. A11 electrical components: breakers, starters, relays, generators.

g. Valves: Pneumatic, water.

h. Control panels.

N-2. Removal Procedures.

Procedures for removal of energy isolating devices by persons other that those who applied them. This procedure will only be applied to those situations where circumstances are such that the employee who applied the lockout or tagout is unavailable to retrieve them.

a. The supervisor must verify the employee who applied the device is unavailable to retrieve the lock or tag.

b. Every reasonable effort will be made to contact the employee to inform him that his lockout or tagout device has been removed.

c. The supervisor will ensure that the employee has been informed that his tag has been removed prior to the employee resuming work in the facility where the lockout or tagout device was removed.

d. The reason for removal of an employee’s energy isolating device shall be documented by the supervisor.

Appendix O
CONFINED SPACE ENTRY PERMIT

Fort Leonard Wood
Confined Space Entry Permit

Date and Time Issued: _____ Date and Time Expires: _____
Job site/Space I.D.: _____ Job Supervisor:_____
Equipment to be worked on: _____
Work to be performed: _____
Stand-by personnel: _____ _____
_____

1. Atmospheric Checks: Time _____
Oxygen _____%
Explosive _____%
L.F.L.
Toxic _____PPM

2. Tester's signature: _____

3. Source isolation (No Entry):	N/A	Yes	No
Pumps or lines blinded,	( )	( )	( )
disconnected, or blocked	( )	( )	( )

4. Ventilation Modification:	N/A	Yes	No
Mechanical	( )	( )	( )
Natural Ventilation only	( )	( )	( )

5. Atmospheric check after isolation and Ventilation:

Oxygen _____%	>	19.5	%
Explosive _____% L.F.L	<	10	%
Toxic _____PPM	<	10	PPM H(2)S

Time _____
Testers signature: _____

6. Communication procedures: _____
_____
_____

7. Rescue procedures: _____
_____
_____
_____

Note: Fort Leonard Wood Fire Department will be notified prior to any permit required confined space entry.

Federal Fire Dept POC @ 6-0883

8. Entry, standby, and back up persons:	Yes	No
Successfully completed required training?	( )	( )
Is it current?	( )	( )

9. Equipment:	N/A	Yes	No
Direct reading gas monitor - tested	( )	( )	( )
Safety harnesses and lifelines for entry and standby persons	( )	( )	( )
Hoisting equipment	( )	( )	( )
Powered communications	( )	( )	( )
SCBA's for entry and standby persons	( )	( )	( )
Protective Clothing	( )	( )	( )
All electric equipment listed Class I, Division I, Group D and Non-sparking tools	( )	( )	( )

10. Periodic atmospheric tests:

Oxygen	____%	Time ____	Oxygen	____%	Time ____
Oxygen	____%	Time ____	Oxygen	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: (Supervisor)_____
Approved By: (Unit Supervisor)_____
Reviewed By (Cs Operations Personnel) :

_____ _____
(printed name) (signature)

ENTRY PERMIT

PERMIT VALID FOR 8 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

DATE: - - SITE LOCATION and DESCRIPTION _____

PURPOSE OF ENTRY _____

SUPERVISOR(S) in charge of crews Type of Crew Phone #

_____

_____

COMMUNICATION PROCEDURES _____

RESCUE PROCEDURES (PHONE NUMBERS AT BOTTOM) _____

_____

* BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED AND REVIEWED PRIOR TO ENTRY*

REQUIREMENTS COMPLETED	DATE	TIME
Lock Out/De-energize/Try-out	____	____
Line(s) Broken-Capped-Blanked	____	____
Purge-Flush and Vent	____	____
Ventilation	____	____
Secure Area (Post and Flag)	____	____
Breathing Apparatus	____	____
Resuscitator - Inhalator	____	____
Standby Safety Personnel	____	____
Full Body Harness w/"D" ring	____	____
Emergency Escape Retrieval Equip	____	____
Lifelines	____	____
Fire Extinguishers	____	____
Lighting (Explosive Proof)	____	____
Protective Clothing	____	____
Respirator(s) (Air Purifying)	____	____
Burning and Welding Permit	____	____

Note: Items that do not apply enter N/A in the blank.

**RECORD CONTINUOUS MONITORING RESULTS EVERY 2 HOURS

CONTINUOUS MONITORING**	Permissible Entry Level	_____							
TEST(S) TO BE TAKEN									
PERCENT OF OXYGEN	19.5% to 23.5%	___	___	___	___	___	___	___	___
LOWER FLAMMABLE LIMIT	Under 10%	___	___	___	___	___	___	___	___
CARBON MONOXIDE	+35 PPM	___	___	___	___	___	___	___	___
Aromatic Hydrocarbon	+ 1 PPM * 5PPM	___	___	___	___	___	___	___	___
Hydrogen Cyanide	(Skin) * 4PPM	___	___	___	___	___	___	___	___
Hydrogen Sulfide	+10 PPM *15PPM	___	___	___	___	___	___	___	___
Sulfur Dioxide	+ 2 PPM * 5PPM	___	___	___	___	___	___	___	___
Ammonia	*35PPM	___	___	___	___	___	___	___	___

DATE: - - SITE LOCATION and DESCRIPTION _____

* Short-term exposure limit: Employee can work in the area up to 15 minutes.

+ 8 hr. Time Weighted Avg.: Employee can work in area 8 hrs (longer with appropriate respiratory protection).

REMARKS:_____

GAS TESTER NAME INSTRUMENT(S) MODEL SERIAL &/OR

& CHECK #	USED	&/OR TYPE	UNIT #
_____	_____	_____	_____
_____	_____	_____	_____

SAFETY STANDBY PERSON IS REQUIRED FOR ALL CONFINED SPACE WORK

SUPERVISOR AUTHORIZING - ALL CONDITIONS SATISFIED_____

DEPARTMENT/PHONE _____

AMBULANCE 911/FIRE 6-0883/Safety 6-0116

M**SO Form CS-001**

Appendix P
EXAMPLE OF A HAZARD COMMUNICATION STANDING OPERATING PROCEDURES

SUBJECT: Hazard Communication (HAZCOM) SOP

1. REFERENCES.

a. AR 700-141, Hazardous Materials Information System.

b. Occupational Safety and Health Administration (OSHA) Toxic and Hazardous Substances standard, 29 CFR 1960.59a and CFR 1910.1200.

2. GENERAL. This policy applies to all Soldiers and civilian employees who are assigned to, training with, or working for the 1st XXX Brigade.

3. PURPOSE.

a. This policy applies to all Battalions/units that have hazardous materials that workers are exposed to or could be exposed to in a foreseeable emergency.

b. To identify hazardous chemicals which are handled, used, stored, or disposed of by anyone in the organization.

c. To provide appropriate HAZCOM training Soldiers and civilian employees who may be exposed to hazardous chemicals under normal operation conditions or in a foreseeable emergency.

d. For the purpose of this SOP, the following definitions will apply

(1) Container: Any bag, barrel, bottle, box, can, cylinder, drum, storage tank, or other item which contains a hazardous chemical.

(2) Exposure: Being subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.).

(3) Foreseeable emergency: Any potential occurrence which could result in an uncontrolled release of hazardous chemicals into the work place.

4. RESPONSIBILITIES.

a. Commanders must appoint in writing a Battalion and Company level Hazard Communication Coordinator.

b. The HAZCOM coordinator must successfully complete the post level HAZCOM required training. This training is conducted by the MSCoE safety office (6-0116).

(1) Must provide and have on hand an inventory of all hazardous chemicals/ materials stored or used in their facilities. This information will be properly prepared, posted and updated. The information will be in an MSDS information center 10800. This kit includes a binder, informational employee pamphlets and a yellow backing labeled MSDS. This can be purchased through your supply.

(2) The HAZCOM Coordinator must ensure that all containers of hazardous chemicals are properly labeled. They also must ensure that employees are not allowed to work with any containers which have not been properly labeled. Coordinator must spot-check containers on a monthly basis to

ensure that they are properly labeled. If a deficiency is found, immediately label any bottle, container, etc. that is not properly labeled.

(3) The HAZCOM Coordinator must conduct training for all personnel who are actually or potentially exposed to hazardous materials/chemicals. Records of training attendance by personnel; lesson plan or synopsis of training conducted will be kept, and may be inspected by the BDE HAZCOM coordinator or the MSCoE Safety Office (MSO). At a minimum the HAZCOM coordinator will explain the following:

(4) Ensure to explain the purpose of the HAZCOM standard, what it requires, and what it will do for them (which are protecting them from the hazards of chemicals in the workplace).

(5) Explain the basic terminology civilians and Soldiers will need to understand. This includes terms used on the MSDS sheets.

5. PROCEDURES. Each time a hazardous chemical is received at the work place, check to ensure that an MSDS is received with it or that on is already available at the work place.

a. If no MSDS is available for the chemical, contact the MEDDAC Preventive Medicine office (59X-XXXX). If no MSDS is available in this way, contact the chemicals manufacturer to request an MSDS. Do not allow employees to use the chemical until an MSDS has been obtained.

b. Ensure that an MSDS is available for each chemical listed on the Hazardous Chemical Inventory List.

c. As each new MSDS is received, ensure that it is checked for any obvious inaccuracies or missing information. If these are noted, contact the manufacturer for correct MSDS. DO NOT change any information on the MSDS or add anything to it.

d. Organize the MSDSs in a binder, alphabetically according to the common name of the chemical (for example, Antifreeze, Brake Cleaner, Motor Oil, etc.). {Note: they can be organized in other manners- For example, by chemical name.}

e. Ensure that MSDSs are readily available to employees during each work shift. Clearly mark the location of the MSDSs, using MSDS information center 10800.

f. The MSDSs will be made available at each work area, room or specific work area for chemicals used at that area.

g. For nonhazardous chemical and to avoid confusion, list on a blank sheet of paper the name of the product and a note saying “This chemical is not hazardous.” Include this sheet in the MSDS file.

h. When use of a hazardous chemical is discontinued, and it is no longer present at the work place, remove the MSDS for that chemical and place it in an inactive MSDS file.

i. The POC for this memorandum is SSG (P) John Doe at 6-XXXX. If you have any further questions POC for this action is the MSCoE Safety Office (MSO) at 6-0116.

Commander’s Signature Block

Appendix Q
RADIATION SAFETY SOURCES AND FORMS

The following items are radiation sources, which are controlled, dangerous, and require specific usage and handling safety precautions, warning signs if applicable, and storage limitations.

a. Individually Controlled Items:

(1)	6635-00-030-6896	Tester, Density, Moisture Nuclear (MC1)
(2)	6665-00-856-8235	Radioactive Source Set, M3A1
(3)	6665-00-556-8825	Radiac Calibrator Set, AN/UDM-1A
(4)	6665-00-179-9037	Radiac Calibrator, AN/UDM-2
(5)	6665-00-767-7497	Radiac Calibrator, AN/UDM-6
(6)	6665-00-973-1123	Radiac Calibrator, TS-123OA
(7)		Radiac Calibrator Unit JLS-81-10

b. Controlled Items:

(1)	6665-00-526-8648	Source, AN/PDR-39
(2)	6665-00-832-6159	Source, MK-7338
(3)	6665-01-081-8140	Chemical Agent Detector, M43A1
(4)	6665-01-199-4153	Chemical Agent Monitor
(5)	6665-01-357-8502	Improved Chemical Agent Monitor
(6)	6665-01-438-3673	Automatic Chemical Agent Detector, M88

Transportation by Military Vehicle (Strontium-Yttrium 90).

1. Purpose: The following information is required by Title 49 CFR 172.203(d) for the movement of the AN/UDM-2 RADIAC calibrator by military vehicle. FLW Form 851-R must be maintained in operator's compartment of vehicle.) The following is required information to complete FLW Form 851-R.

a. Radioactive Material, Special Form n.o.s.

b. Identification Number UN 2974

c. Strontium-Yttrium 90

d. Special Form

e. 180 millicurie

f. RADIOACTIVE-YELLOW II (SF 414)

g. Transport index 0.2

h. Certification and supporting safety analysis for special form source, AN/UDM-2 RADIAC calibrator, is maintained by the U.S. Army Communications-Electronics Command, ATTN: AMSEL-SF-RER, Fort Monmouth, NJ 07703-5000, commercial phone (732) 427-3112, ext. 6440 or DSN 987-3112/4427.

i. Certification and supporting safety analysis for specification 7A packaging Type A container for AN/UDM-2 RADIAC calibrator is maintained by the U.S. Army Communications-Electronics Command, ATTN: AMSEL-SF-RER, Fort Monmouth, NJ 07703-5000, commercial phone (732) 427-3112/4427 or DSN 987-3112/4427.

j. NRC license number 29-01022-08

k. Device Weight - 30 pounds

2. Additional Requirement:

a. Vehicle placarding not required.

b. RADIAC calibrator must be secured to prevent shifting or movement during transport.

c. RADIAC calibrator will be secured within the transport vehicle to provide security measures adequate to prevent unauthorized removal.

d. In the event of a major accident, the following personnel will be notified:

(1) SDO, Fort Leonard Wood, MO, commercial phone (573) 593-6126 or DSN 581-6126.

(2) RSO, U.S. Army Communications-Electronics Command (CECOM), commercial phone (732) 427-3112/4427, DSN 987-3112/4427.

Transportation by Military Vehicle (Plutonium (Metal)).

1. Purpose: The following information is required by Title 49 CFR 172.200-202 and 172.203(d) for the movement of the AN/UDM-6 RADIAC calibrator by military vehicle. FLW Form 851-R must be maintained in operator's compartment of vehicle. The following is required information to complete FLW Form 851-R.

a. Consignee and consignor's name

b. Shipping Notice - "This package conforms to the conditions and limitations specified in Title 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., un 2910."

c. Radioactive Material, Limited Quantity n.o.s.

d. Identification Number UN 2910

e. Plutonium 239

f. Normal Form-solid, Elemental Plutonium (metal)

g. 1.4 microcurie

h. Fissile Exempt

i. Excepted from specification packaging, marking, and labeling

j. Possession and use of the above radioactive device is authorized under NRC License # SNM-1900.

k. 14 3/16 inches x 10 5/8 inches x 1 13/16 inches, 8 lbs.

2. Additional Requirement:

a. Vehicle placarding not required.

b. RADIAC calibrator will be secured within the transport vehicle to provide security measures adequate to prevent unauthorized removal.

c. RADIAC calibrator must be secured to prevent shifting or movement during transport.

d. In the event of a major accident, the following personnel will be notified:

(1) SDO, Fort Leonard Wood, MO, commercial phone (573) 593-6126 or DSN 581-6126.

(2) RSO, U.S. Army CECOM, commercial phone (732) 427-3112/4427, DSN 987-3112/4427.

e. This document is applicable only for a single AN/UMD-6 Radiac Calibrator.

RADIOACTIVE MATERIAL MOVEMENT FORM
(MANEUVORS ONLY)

ATTN: Fort Leonard Wood Radiation Safety Officer (FLWRSO)

DATE _____

SHIPMENT NO _____

1. Reference: Appendix E, Movement of Military Equipment Containing Radioactive Materials (Maneuvers Only) Instructions.

2. This unit has complied with all of the requirements of above references. In case of an accident/fire with radioactive equipment, the FLWRSO will be contacted prior to releasing information. See above reference for location and telephone numbers of FLWRSO.

3. Administrative Information:

a. Unit Identification _____

b. Purpose of Movement _____

c. Date of Deployment _____

d. Destination _____

e. Date of Return _____

4. The following unit's Radiation Safety Personnel are familiar with the types of radioactive materials, associated hazards, and emergency procedures to be implemented in case of an accident/fire with equipment containing radioactive materials. A visual inspection has been accomplished to ensure the removal of damaged or leaking radioactive equipment and for proper storage of equipment to prevent further damage:

NAME DATE

a. Prior to Departure _____

b. Prior to Return _____

5. Inventory of equipment containing radioactive materials:

NOUN	NSN	RADIONUCLIDE	ACTIVITY	QUANTITY

(Continue on reverse side if required)

6. I understand that this shipment may be inspected by the FLWRSO, Transportation Officer, or other authorized representatives for compliance with above reference. Also, that this form is my authority to transport radioactive materials/equipment on public highways for the purpose of conducting official training exercises.

_____
UNIT COMMANDER

FLW Form 846-R (Sep 97)

Sample of FLW Form 846-R (Radioactive Material Movement Form (Maneuver Only)).

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXX

SUBJECT: Standing Operating Procedure for Training with Portable Fire Control Laser

1. Laser rangefinders and designators can cause irreparable blindness if used improperly. Exposure of the eye to either the direct beam or a beam reflected from a flat mirror-like surface can cause an injury at a great distance. The following control measures will prevent such an exposure when training operators with portable fire control lasers in one-sided exercises:

a. Laser operators shall periodically read and always follow this safety SOP.

b. Never point the laser at any unprotected personnel or flat mirror-like surfaces such as glass.

c. Operate only on laser-approved ranges established in accordance with AR 385-63.

d. The laser will not be operated or experimented with outside the range area unless it is specifically authorized. The laser exit port will be covered by an opaque dust cover and the laser disabled by removal of the battery when the laser is located outside the area.

e. Positively identify the target and buffer areas prior to laser operations.

f. Laser eye protection is not required for laser operators even when viewing the target area with binoculars. However, operators should never wander into the laser target area without appropriate laser eye protection. Such eye protection shall have curved lenses.

g. No special precautions are necessary for firing during rain, fog, or snow fall. Certain ranges may be closed for operation if water begins to pond either on the ground or on snow.

h. Report immediately to your supervisor any suspected injury or defective equipment (such as misalignment of the laser beam with the point telescope) so that appropriate action may be taken.

2. POC for this action is SFC John Doe, 596-####.

Unit Commander's Signature

Sample Safety SOP for Training with Portable Fire Control Lasers.

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXXXX

SUBJECT: SOP for Maintenance Shop Operations of Fire Control Laser

1. Laser rangefinders and designators can cause irreparable blindness if used improperly. Exposure of the eye to either the direct beam or a beam reflected from a flat mirror-like surface can cause an injury to the unprotected eye. Class 4 lasers may also pose a potential hazard when viewing a diffuse reflection of the beam and may also pose a skin hazard. The following control measures will prevent hazardous exposure during laser operations in the maintenance shop:

a. Maintenance personnel shall periodically read and shall always follow this safety SOP.

b. Only those operations authorized in appropriate maintenance manuals shall be permitted.

c. Never direct the laser at unprotected personnel.

d. Wear laser protective eyewear whenever the laser is operated with an unenclosed beam and then use a countdown procedure.

e. Operate the laser from within an approved area which is closed such that no lines-of-sight exist to unprotected personnel outside the area. The laser exit port will be covered by an opaque dust cover and the battery will be removed from the device when it is located outside of the closed area unless it is specifically authorized.

f. Prior to laser operations, complete the following checklist:

(1) Periodically test door electrical interlock switch at entrances.

(2) Select appropriate laser protective eyewear for the laser(s) to be operated. Ensure that eye protection is marked with its protective characteristics.

(3) Test warning lights or alarms to the closed area.

(4) Post a warning sign at entrances to the closed area.

(5) Ensure that any other required safety devices are available.

g. A lens used to focus the laser beam of Class 3 and Class 4 lasers will increase the eye hazards from diffuse reflections and the skin hazards around the focal point. No optical devices will be allowed in the maintenance area.

h. Report immediately to your supervisor any suspected injury or defective equipment so that appropriate action may be taken.

2. POC for this action is SFC John Doe, 596-####.

Unit Commander's Signature

Sample Safety SOP for Maintenance Shop Operations of Fire Control Lasers

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXXX

SUBJECT: Safety SOP for ARC Welding and Cutting Operations

1. Welding, cutting, and allied operations may produce radiant energy (radiation) harmful to health. You should acquaint yourself with the effects of this radiant energy. Radiant energy may be ionizing (such as X-rays) or non-ionizing (such as ultraviolet, visible light, or infrared). Radiation can produce a variety or effects such as serious and painful ultraviolet induced eye and skin irritation or possible blindness, depending on the radiant energy's wavelength and intensity, if excessive exposure occurs. The intensity and wavelengths of non-ionizing radiant energy produced depend on many factors, such as the process, welding parameters, electrode and base metal composition, fluxes, and any coating or plating on the base material. Some processes such as resistance welding and cold pressure welding ordinarily produce negligible quantities of radiant energy. However, most electric arc welding and cutting processes (except submerged arc when used properly, laser welding and torch welding, cutting, brazing, or soldering) can produce quantities of non-ionizing radiation such that precautionary measures are necessary.

2. Protection from possible harmful effects caused by non-ionizing radiant energy from welding include the following measures:

a. Do not look at welding arcs except through welding filter plated, which meet the requirements of American National Standards Institute (ANSI) Standard Z87.1-1979, Practice for Occupational and Education Eye and Face Protection, published by ANSI, 1430 Broadway, New York, New York 10018. NOTE: Transparent welding curtains are not intended as welding filter plates, but rather are intended to protect passersby from incidental exposure.

b. Protect exposed skin with adequate gloves and clothing as specified in ANSI Standard Z49.1.

c. Beware of reflections from welding arcs, and protect all persons from intense reflections. NOTE: Paints using pigments of substantially zinc oxide or titanium dioxide have a low reflectance of ultraviolet radiation.

d. Avoid exposing passersby to welding operations by use of screens, curtains, or adequate distance from aisles, walkways, etc.

e. Safety glasses with UV protective side shields have been shown to provide some beneficial protection from ultraviolet radiation produced by welding arcs.

3. POC for this action is SFC John Doe, 596-####.

Unit Commander’s Signature

Sample Safety SOP for ARC Welding and Cutting Operations

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXXXX

SUBJECT: SOP for Photographic ARC Sources

1. Serious and painful ultraviolet induced eye and skin irritation may result to unprotected personnel if the unit is improperly used. The following precautions reduce needless occupational exposure:

a. Only authorized personnel familiar with the potential hazards and control measures shall use the unit.

b. The unit shall be used in a designated area with limited access whenever possible in order to provide added protection to passersby. Operation from within a closed, well ventilated room or draped area is most desirable to reduce the risk of exposure.

c. Frequent exposure to direct and leakage light or light scattered within the work environment should be avoided since the potential hazard accumulates with each exposure during a workday. When possible, the source should be shielded from the operator to limit the dose.

d. When exposure is necessary, operators should take appropriate protective measures, such as use of dark glasses with side shields, long-sleeved shirts, gloves, and long pants. Although such protective clothing and equipment may not completely eliminate the ultraviolet radiation to covered portions of the body, it lessens risk of injury to the skin or eye.

e. Never look directly at the source. A welder's shield of shade 11 is adequate to view the source comfortably when necessary.

2. POC for this action is SFC John Doe, 596-####.

Unit Commander’s Signature

Sample SOP for Photographic ARC Sources

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXXXX

SUBJECT: SOP for Ultraviolet ARC Sources

1. Serious and painful ultraviolet induced eye and skin irritation may result to unprotected personnel if the unit is improperly used. The following precautions reduce needless occupational exposure:

a. Only authorized personnel familiar with the potential hazards and control measures shall use the unit.

b. The unit shall be used in a designated area with limited access whenever possible in order to provide added protection to passersby. Operation from within a closed, well ventilated room or draped area is most desirable to reduce the risk of exposure.

c. Frequency exposure to direct and leakage light or light scattered within the work environment should be avoided since the potential hazard accumulates with each exposure during a workday. When possible, the source should be shielded from the operator to limit the dose.

d. When exposure is necessary, operators should take appropriate protective measures such as: use of glasses with side shields, long sleeved shirts, gloves, and long pants. Although such protective clothing and equipment may not completely eliminate the ultraviolet radiation to covered portion of the body, it lessens the risk of injury to the skin or eye.

e. Never look directly at the source without protective eyewear.

2. POC for this action is SFC John Doe, 596-####.

Unit Commander's Signature

Sample SOP for Ultraviolet ARC Sources

Office Symbol Date of SOP

MEMORANDUM FOR XXXXXXXXXXXXX

SUBJECT: SOP for Radio Frequency Radiating Source Operating/Maintaining

1. SOPs provide a mechanism for radiation protection and training of personnel relative to RFR sources. The purpose of the SOP is to prevent personnel overexposure to RFR, and for this reason an SOP is required for any system that is able to produce RFR power density levels in excess of the Permissible Exposure Limit (PEL) (see Note 1). The first principle to be followed in establishing SOPs is to prevent any possible RFR in areas that are potentially occupied by personnel. If that cannot be done without compromise of the mission, then the irradiated area must be controlled wherever the RFR exceeds the PEL. Positive control methods are preferred (physical barricades, visual surveillance, warning signs, lights, etc., depending upon the level of radiation involved (see note 2)). If these means are not feasible then the potentially exposed personnel must be carefully trained in the procedures that will prevent overexposure. In addition, the training must be reinforced periodically (documented annual periodic training is required by regulation). The published SOPs document each of the control processes--equipment, radiation zone, and personnel. The following list of procedures is minimal. Each organization should expand this list to meet the particular needs of the activity and RFR inventory.

a. Prohibit unnecessary free-space radiation of all controlled systems. This should apply absolutely inside of buildings. The use of dummy loads or test sets is recommended wherever possible, and isolated antennas (roof/tower mounted) should be specified wherever free-space radiation is required.

b. Post the standard RFR warning sign along all access routes into radiation zones where power density levels can exceed the PEL. Barricades (rope/fence) and/or warning light/alarms may be necessary to isolate any radiation zone where the power density can exceed five times the PEL. Post the standard RFR warning sign (Figure H-9) along such barricades to warn personnel of the overexposure potential.

c. Post the standard RFR warning sign permanently in any work area where controlled sources are regularly operated. The warning message should inform personnel that RFR sources are operated in the area. The requirement is optional in those work areas where free space radiation is not normally permitted.

d. Observe the RFR warning messages in TMs, FMs, TBs, etc., during all operations. Wherever special RFR related warnings/procedures are necessary, publish these and post them at the work station.

e. Test all RFR related safety interlocks/switches/warning devices, etc., prior to any operation that utilizes these safety features for radiation protection. Maintain a log of the results of all such tests.

f. Provide initial and periodic (annual as a minimum) RFR safety briefings for all personnel required to work with controlled sources. A permanent record should be made of the content of these briefings and the attendance roster. Provide both to FLWRSO.

g. Report all instances of suspected or actual overexposure. Note that all overexposure must be investigated and documented. Investigations involving levels of five times the PEL must include measurement of exposure levels, appropriate medical examination, and a detailed description of circumstances surrounding the incident.

h. Post the SOP conspicuously, as a minimum in the work place.

i. Forward a copy of the SOPs, and subsequent changes thereto, to the FLWRPO.

j. Direct concerns relative to the safety of RFR activity within the organization to the FLWRSO for technical support consultation and exposure control.

k. Retain a record of exposure criteria for RFR sources operated by the organization.

l. Compile and maintain an inventory of RFR sources operated by the organization. Provide this list to the FLWRSO, with updates as the inventory changes.
Point of clarification.

a. The inventory of RFR sources maintained by the FLWRSO lists all installation sources that can exceed the PEL.

b. A system that is able to produce RFR power density levels greater than five times the PEL requires more rigid radiation protection control than one that produces less than five times the PEL.

2. POC for this action is SFC John Doe, 596-####.

Unit Commander's Signature

Glossary

Section I. Acronyms and Brevity Codes.

A&E
ammunition and explosives

AAC
Accident Avoidance Course

AAR
after action review

AC
assistant commandant

ACH
Army combat helmet

ACADA
alarm chemical agent detector automatic

ADR
automated dosimetry record

ADSC
additional duty safety course

ADSO
additional duty safety officer

AGAR
abbreviated ground accident report

AHA
ammunition holding area

ALARA
as low as is reasonably achievable

AMC
Army Materiel Command

AMV
Army motor vehicle

AR
Army regulation

ARAP
Army readiness assessment program

ARSO
alternate radiological safety officer

ARTEP
Army training and evaluation program

ASP
ammunition supply point

ATEC
U.S. Army Test and Evaluation Command

ATSTP
army traffic safety training program

BDE
brigade

BN
battalion

CA
Compensation Act

CAM
chemical agent monitor

CAI
centralized accident investigation

CAIG
centralized accident investigation ground

CBRN
chemical, biological, radiological, and nuclear

CDID
capability development and integration directorate

CDL
commercial driver’s license

CDR
commander

CDSO
collateral duty safety officer

CDTF
chemical defense training facility

CFR
code of federal regulations

CG
commanding general

CID
criminal investigation division

CIF
Central Issue Facility

CM
chemical

CMA
competent medical authority

CMCL
chemical defense training facility maximum concentration limit

CMDT
commandant

CONEX
container express

COTS
commercial off-the-shelf

CPAC
civilian personnel advisory center

CPR
civilian personnel regulation

CS
chief of staff

CSC
commanders safety course

CSM
command sergeant major

CTC
combat training company

DA
Department of the Army

DASAF
Director of Army Safety

DD
Department of Defense

DECAM
Directorate of Environmental Compliance and Management

DENTAC
dental activity

DES
Directorate of Emergency Services

DFAC
dining facility

DFARS
defense federal acquisition regulation supplement

DFMWR
Directorate of Family and Morale, Welfare, and Recreation

DIR
director

dL
distance learning

DoD
Department of Defense

DODAC
Department of Defense ammunition code

DODI
Department of Defense instruction

DODIC
Department of Defense identification code

DOL
Directorate of Logistics

DOT
Department of Transportation

DPTMS
Directorate of Plans, Training, and Mobilization

DPW
Directorate of Public Works

DSN
defense switched network

DtCG
deputy to the commanding general

ECO
environmental compliance officer

EM
engineer manual

EN
engineer

EOD
explosive ordnance disposal

FASP
field ammunition supply point

FECA
Federal Employee Compensation Act

FLW
Fort Leonard Wood

FLWRSO
Fort Leonard Wood Radiological Safety Officer

FOB
forward operating base

FORSCOM
U.S. Army Forces Command

FM
field manual

GBL
Government Bill of Lading

GCMCA
General Court Martial Convening Authority

GHS
Global Harmonization System

GLWACH
General Leonard Wood Army Community Hospital

HAZCOM
hazard communication

HAZMAT
hazardous material

HBV
hepatitis B virus

HD
hazard division

HHIM
health hazard information module

HIV
human immunodeficiency virus

HQ
headquarters

IAI
installation accident investigation

IAW
in accordance with

ICAM
improved chemical agent monitor

ICS
individually controlled sources

IDLH
immediately dangerous to life and health

IEO
Installation Ergonomics Officer

IET
initial entry training

IH
industrial hygiene

IMA
Installation Medical Authority

IMCOM
U.S. Army Installation Management Command

IRPD
Installation Respiratory Protection Director

IRS
Installation Respirator Specialist

ITP
individual training publication

ITRO
Inter-service Training Review Organization

JHA
job hazard analysis

JWG
joint working groups

LEL
lower explosive level

LPS
lightning protection system

MACOM
major command

MANPRINT
manpower and personnel integration

MCM
materiel change management

MDMP
military decision making process

MED
medical

MEDDAC
Medical Department Activity

MHE
material handling equipment

MICC
U.S. Army Mission and Installation Contracting Command

MIL
military

millirem
milliroentgen equivalent man

MMR
military munitions rule

MP
military police

MPH
miles per hour

MRE
meals, ready-to-eat

MSC
major subordinate command

MSCoE
United States Army Maneuver Support Center of Excellence

MSDS
material safety data sheet

MSF
Motorcycle Safety Foundation

MSHA
Mine Safety and Health Administration

MSO
Maneuver Support Center of Excellence Safety Office

NATO
North Atlantic Treaty Organization

NCO
noncommissioned officer

NCOA
Noncommissioned Officer Academy

NCOIC
noncommissioned officer in charge

NEW
net explosives weight

NFPA
National Fire Protection Association

NHCS
non-hazardous confined space

NIOSH
National Institute for Occupational Safety and Health

NRC
Nuclear Regulatory Commission

NRP
non-ionizing radiation program

NSN
national stock number

OE
ordnance and explosives

OF
optional form

OIC
officer in charge

OIP
Organizational Inspection Program

OPM
Office of Personnel Management

OPORD
operations order

OSC
Operation Support Command

OSHA
Occupational Safety and Health Administration

OSHAC
Occupational Safety and Health Advisory Council

OJT
on-the-job training

Pam
pamphlet

PAO
Public Affairs Office

PBO
property book officer

PEL
permissible exposure limits

PHC
Public Health Command

PMS
Preventive Medicine Service

POC
point of contact

POI
program of instruction

POV
privately owned vehicle

PPE
personal protective equipment

PPM
parts per million

PREOP
preoperational

PT
physical training

PX
Post Exchange

Q-D
quantity-distance

QASAS
Quality Assurance Specialist, Ammunition Surveillance

QDR
quality deficiency report

RAC
risk assessment code

RAM
reliability, availability, and maintainability

Reg
regulation

rem
roentgen equivalent mammal

RF
radio frequency

RFP
request for proposals

RFR
radio frequency radiation

RM
risk management

ROTC
Reserve Officer Training Corps

RPD
respiratory protection device

RPE
respiratory protection equipment

RPP
Respiratory Protection Program

RSP
radiation safety program

SASOHI
Standard Army Safety and Occupational Health Inspection

SCBA
self-contained breathing apparatus

SGS
Secretary of the General Staff

SDO
staff duty officer

SOH
Safety and Occupational Health

SOHAC
Safety and Occupational Health Advisory Council

SOP
Standing Operating Procedure

SSRA
System Safety Risk Assessment

SSSP
Site Safety Submission Plan

STD
Standard

STEL
Short-Term Exposure Limit

STP
Soldier Training Publication

TB
technical bulletin

TC
training circular

TCAT
toxic chemical agent training

TG
technical guide

TIWG
test integration working group

TM
technical manual

TMDE
test, measurement, and diagnostic equipment

TRADOC
United States Army Training and Doctrine Command

TRiPS
Travel Risk Planning System

TSC
Training Support Center

TSP
training support package

TTB
tactical training base

U.S.
United States

USA
U.S. Army

USAC
unit safety action councils

USACBRNS
U.S. Army Chemical, Biological, Radiological, and Nuclear School

USACHPPM
U.S. Army Center for Health Promotion and Preventive Medicine

USACRSC
U. S. Army Combat Readiness/Safety Center

USAES
U.S. Army Engineer School

USAMPS
U.S. Army Military Police School

USASC
U.S. Army Safety Center

UXO
unexploded ordnance

VISMOD
visual modifications

WMM
Waste Military Munitions

WMSD
work-related muscle skeletal disorder

Section II. Terms.

Approved respiratory protection. Tested and listed as satisfactory by NIOSH or MSHA to provide adequate respiratory protection against a particular hazard for which it is designed.

Attendant. An attendant is an individual stationed outside of the confined space to monitor the entrant. An attendant is the entrant's link with rescue forces and activities outside of the space.

Blanking or Binding. Blanking or binding is the absolute closure of a pipeline or duct by fastening a solid plate or cap across and completely covering the bore and which extends at least to the outer edge of the flange to which it is attached, and which is capable of withstanding the maximum upstream pressure generated in the pipe or duct.

Classes of Accidents.

a. Class A accident. An Army accident in which the resulting total cost of property damage and personnel injuries or occupational illness is $2,000,000 or greater; or an injury or occupational illness that results in a fatality or permanent total disability.

b. Class B accident. A n Army accident in which the resulting total cost of property damage and personnel injuries or occupational illness is $500,000 or more, but less than $2,000,000; or an injury or occupational illness that results in permanent partial disability or hospitalization of three or more personnel in a single occurrence.

c. Class C accident. An Army accident in which the resulting total cost of property damage is $50,000 or more, but less than $500,000; a nonfatal injury or occupational illness that causes 1 or more days away from work or training beyond the day or shift on which it occurred or disability at any time (that does not meet the definition of Class A or B and is a day(s) away from work).

d. Class D accident. An Army accident in which the resulting in total cost of property damage is $2,000 or more, but less than $50,000; a nonfatal injury or illness resulting in restricted work, transfer to another job, medical treatment greater than first aid, needle stick injuries, and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work-related tuberculosis case.

Confined Space means a space that—

a. Is large enough and so configured that an employee can bodily enter and perform assigned work; and

b. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and

c. Is not designed for continuous employee occupancy. A confined space may be fixed in place, or may be mobile. Confined space may be vertical or horizontal, may be square or cylindrical in shape. Confined space may be identified as non-hazardous confined space (NHCS) or immediately dangerous to life and health (IDLH) confined space.

(1) Non-hazardous confined space is space which has no potential for causing injury, has no hazardous fluids or granular materials in pipes or transported by other means through the space, has no form of energy in or through the space and has no potential for the generation or accumulation of toxic or explosive gases, vapors or fumes which might create an explosive atmospheric mixture or create an oxygen deficient or enriched atmosphere or the potential for engulfment.

(a) Type A NHCS is confined space which meets the basic definition of NHCS and which is entered on a routine basis (daily or more than once a month) for the purpose of reading meters or inspection of equipment. NOTE: Inspection does not include opening valves or other control devices, or the opening of electrical distribution panels or any other activity which requires the use of tool beyond a source of illumination and a method of recording readings/inspection results.

(b) The confined space entry requirements for trailer mounted mobile tanks are contained in this chapter.

(2) Immediately dangerous to life or health (IDLH) is any confined space with the potential to generate or accumulate vapors, or fumes which may form an explosive/flammable or toxic atmosphere or an atmosphere deficient or enriched with oxygen. The minimum concentration of oxygen necessary to support human life is considered to be 19.5% and an oxygen concentration of 22% or greater, is considered to be an oxygen enriched atmosphere. In an enriched atmosphere, materials not considered to be highly combustible, will ignite easily and bum rapidly and violently. Once a space has been identified as being IDLH, it will always be considered to be IDLH space.

Disinfection. The destruction of pathogenic organisms, primarily by means of chemical substances.

Emergency. An emergency is any condition or occurrence, including loss of communications, or monitoring equipment or events internal or external to the confined space, which could endanger the entrant.

Entrant. An entrant is an individual who has been properly trained IAW applicable directives and who, as part of assigned duties, enters a confined space as authorized by an Entry Permit.

Entry. Entry is the intentional act of passing through an opening into a confined space. An entrant is considered to have entered when any part of the entrant breaks the plane of the opening.

Entry Permit. Entry permit is a printed document generated by a qualified supervisor and which contains the following information:

a. The location and identifying number of the confined space to be entered.

b. The reason for entry into the confined space.

c. The name of the supervisor authorizing entry.

d. Start time and estimated completion time for the task.

e. Person(s) authorized to be entrants. NOTE: Properly trained personnel may alternate between the duties of entrant and attendant.

f. Date of the permit. A permit is normally only valid for the date originated, or for a single work shift. Change of personnel due to a shift change will require a new permit to be generated. However, when entry into a type A NHCS is performed on a recurring basis, for the purpose of reading meters or inspection of equipment, a blanket permit, valid for up to one calendar year may be issued. (See definition of Type A NHCS.)

g. Name of attendant(s).

h. Atmosphere testing/monitoring, including description of the test equipment, date of most recent calibration and serial number. Test/monitoring must include, as a minimum, oxygen level, explosive or flammable atmosphere, toxic atmosphere and any other test(s) deemed necessary by the entrant or the supervisor at the site.

i. Name of the individual conducting test/monitoring.

j. Protective clothing to be worn and equipment to be used in the space.

k. The method to supply a source of suitable breathing air, i.e., SCBA, supplied airline with escape capabilities, with electrically driven pump or as appropriate.

l. The method of isolating any energy source(s) in the confined space.

m. Identity, location and telephone number(s) for emergency services, fire rescue, medical services.

n. The authorizing supervisor signs the permit form only when all the conditions for entry have been satisfied.

Immediately dangerous to life or health (IDLH). Environmental conditions which result in less than 19.5 percent of oxygen in the air or contaminants of high toxicity which even for short periods of exposure pose an immediate threat to the life or health of employees.

Job. A job is a sequence of separate steps or activities that, when put together, accomplish a work goal.

Job hazard analysis (JHA). A JHA is an evaluation of the steps involved in performing a job. Identification of the hazards associated with the job steps, and actions to be taken to eliminate or reduce the hazards.

Occupational Safety and Health Act (OSHA) (PL 91—596). Public law governing occupational safety and health programs.

Organizations. Brigades, battalions, and directorates.

Oxygen-deficient atmosphere. Atmosphere containing 19.5 percent or less of oxygen by volume.

Permit-Required Confined Space. (Permit Space), means a confined space that has one or more of the following characteristics:

a. Contains or has a potential to contain a hazardous atmosphere;

b. Contains a material that has the potential for engulfing an entrant;

c. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

d. Contains any other recognized serious safety or health hazard.

Qualified Supervisor. Qualified supervisor is a supervisor who successfully completes required training IAW Title 29, CFR 1910.146. Only a qualified supervisor may generate an entry permit. The supervisor must be familiar with the task to be performed and must certify the accuracy of atmospheric tests conducted prior to entry.

Rescuer. A rescuer is an individual whose sole responsibility is to perform rescue of an entrant should the need arise. Entry into an IDLH confirmed space by an entrant will always require the presence of a rescuer at the site in addition to the qualified supervisor and an attendant. However, a rescuer may also be the attendant providing a system is in place to allow the rescuer to remove the entrant from the space without the rescuer having to enter the space, i.e., a rescue tripod, winch, suitable cable and body harness worn by the entrant. If however, the rescuer must enter the space to perform the rescue, an attendant must be at the site as well, to monitor both the entrant and the rescuer.

Respirator. Device designed to provide the user with respiratory protection against inhalation of a contaminated atmosphere and for some devices, to provide oxygen by volume-deficient atmospheres.

Risk Levels.

a. EXTREMELY HIGH RISK – Loss of ability to accomplish the mission if hazards occur during the mission.

b. HIGH RISK – Significant degradation of mission capabilities in terms of the required mission standard, inability to accomplish all parts of the mission, or inability to complete the mission to standard if hazards occur during the mission.

c. MODERATE RISK – Expected degraded mission capabilities in terms of the required mission standard and will result in reduced mission capability if hazards occur during the mission.

d. LOW RISK – Expected losses have little or no impact on accomplishing the mission.

Unit. Companies, separate detachments, and divisions of directorates.