FORT KNOX REGULATION 385-10
IS CURRENTLY UNDER REVISION.

SOME OF ITS CONTENT
IS OUTDATED.

PLEASE CONTACT
THE INSTALLATION SAFETY OFFICE
FOR ADDITIONAL GUIDANCE.

Headquarters
Fort Knox
Fort Knox, Kentucky 40121-5720
20 July 2009

*Fort Knox Reg 385-10

Safety

THE FORT KNOX SAFETY PROGRAM

Summary. This regulation provides new policy on Army safety management procedures with special emphasis on responsibilities and organizational concepts. It implements requirements of the Occupational Safety and Health Act (OSHA) of 1970 as implemented in Executive Order 12196; 29 Code of Federal Regulations (CFRs), Part 1960, Title 29; and Department Of Defense Directive (DODD) 1000.3.

Applicability. This regulation applies to all US Army Armor Center (USAARMC) and Fort Knox major activities, directorates, staff offices/departments, Fort Knox Partners in Excellence, and US Army Reserve and National Guard units supported by the Installation Safety Office (ISO).

Suggested Improvements. The proponent of this regulation is ISO. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Installation Safety Office (IMSE-KNX-SO), 197 6TH Avenue, Suite 229, Fort Knox, Kentucky 40121-5720.

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*This regulation supersedes Fort Knox Reg 385-10, dated 23 April 2004.

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Chapter 1
Introduction

1-1. Purpose.

a. This regulation prescribes Fort Knox policy, responsibilities, and procedures to protect and preserve Army personnel and property against accidental loss. It provides for public safety incumbent to Army operations and activities and healthful workplaces, procedures, and equipment.

b. This regulation mandates Fort Knox Safety Program policies, procedures, and guidelines into one comprehensive safety program for all Fort Knox operations.

1-2. References. Required and related publications are listed at appendix A.

1-3. Policy.

a. Managers/supervisors at all levels must pursue a vigorous accident prevention program that will minimize accidental manpower and materiel losses, thus providing more efficient use of resources. Decision makers at all levels will employ the Army's Composite Risk Management process to effectively preclude unacceptable risk to the safety of personnel and property. Accidental losses affect combat readiness. Positive action will be taken to control these losses through the Composite Risk Management process, training, education, and aggressive leadership. Fort Knox Composite Risk Management Program requirements are in Chapter 21. Labor management relations' responsibilities regarding consultations; negotiations; union/management agreements; and applicable laws, rules, or government-wide regulations will be fulfilled and complied with.

b. The following principles will be effectively integrated into all Fort Knox plans, programs, decision processes, operations, and activities:

(1) Accidents are an unacceptable obstacle to Army missions, readiness, morale, and resources; hence, decision makers will exercise accident risk management.

(2) Decision makers at every level will employ the Composite Risk Management process specified in Chapter 21, this regulation, to avoid unnecessary residual risk to missions, personnel, equipment, and the environment.

(3) The acquisition of materials, equipment, facilities, and systems will maximize the use of engineering design to preclude unnecessary residual risk and control residual risks.

(4) Life cycle safety considerations will be considered in the acquisition, use, and disposal of chemicals and hazardous materials in order to prevent danger or compromise public health and safety.

(5) Appropriate actions will be taken to expeditiously correct nonconformities with mandated standards, workplace deficiencies hazards, and accident causes.

(6) Performance standards for military and civilian managers and supervisors will include accident prevention and Occupational Health (OH) responsibilities as a rating element. The success or shortcomings of managers or supervisory personnel in performing safety and occupational health (SOH) responsibilities will be considered in Army civilian employee performance appraisals, officer evaluation reports (OERs), and noncommissioned officer evaluation reports (NCOERs) in accordance with Department of Defense Instruction (DODI) 6055.1, (DOD Safety and Occupational Health Program).

1-4. Responsibilities.

a. The USAARMC, exercises overall staff responsibility for the USAARMC and Fort Knox Accident Prevention Program. The ISO Director acts for the Commanding General (CG) in discharging this responsibility.

b. The ISO is responsible for the following:

(1) Serve as principal staff element in planning, organizing, directing, and evaluating all safety program elements within the command.

(2) Provide establishment and implementation of plans, policies, and procedures for conducting safety programs at all levels of command and assist commanders in determining the numbers and qualifications of personnel necessary to ensure an effective Accident Prevention Program.

(3) Provide technical and professional assistance to eliminate or control unsafe behavior and unsafe environments.

(4) Determine the need for, obtain, and distribute safety promotional and educational materials.

(5) Provide technical assistance in accident investigating and reporting to ensure accuracy and completeness.

(6) Collect, analyze, and disseminate data concerning the accident experience of the command; prepare reports of safety activities; and conduct studies as required by higher authority.

(7) Review operating procedures, manuals, directives, and other instructions to ensure the incorporation of safe practices and physical standards.

(8) Review plans for proposed demonstrations and exhibits to ensure the safety of Army personnel and the public.

(9) Maintain close liaison with other staff agencies and military services, along with Federal and civilian agencies in all relevant safety matters.

(10) Conduct surveys and inspections of activities including review of Accident Prevention Programs.

(11) Conduct standard Army Safety and Occupational Health Inspections (SASOHI) of work sites.

(12) Implement and manage all aspects of the Army Safety Program for this installation as outlined in AR 385-10.

(13) Implement and manage the Installation Hazard Communication (HAZCOM), Composite Risk Management, Radiation Protection, and Respiratory Program Protection.

(14) Develop recommendations for corrective measures warranted by adverse accident rates or trends, hazardous conditions or procedures, or other deficiencies.

(15) Provide accident prevention material and ensure high quality training for civilian and military safety personnel at all levels.

(16) Coordinate with Preventive Medicine Service (PMS) and US Army Medical Department Activity (MEDDAC) to identify and abate existing or potential OH hazards in the workplace (i.e., Ergonomics, bloodborne pathogens).

(17) Publicize channels for reporting unsafe or unhealthful conditions.

(18) Convenes the Command Safety Council quarterly or as directed by the CG.

(19) Fulfill and comply with labor management relations responsibilities regarding consultation; negotiation; union/management agreements; and applicable laws, rules, and government-wide regulations.

(20) Provide safety support for range and training complex activities.

c. Directorate of Public Works (DPW) is responsible for the following:

(1) Coordinate DA Forms 4283 (Facilities Engineering Work Requests) with the ISO for identification of safety deficiencies.

(2) Consolidate deficiencies, where correction exceeds local capability, into projects for Department of the Army (DA) funding.

(3) Establish internal procedures to assure work requests identified by ISO as imminently dangerous are corrected immediately.

(4) Provide ISO a quarterly status report (installation OSHA Abatement Plan) of safety deficiency abatement status.

(5) Assure coordination with ISO in the design, construction, and renovation of new or existing facilities to ensure compliance with OSHA standards, National Fire Protection Association (NFPA) life safety codes and other national consensus standards.

(6) Support the safety program within their respective areas and provide necessary assistance to enhance the overall safety effectiveness of the installation.

(7) Provide the ISO with estimated cost of damage (ECOD) reports on all equipment and vehicles involved in accidents.

(8) Ensure that DD Form 1348-6 (Single Line Item Requisition System Document, DOD (Manual-Long Form)) or DA Form 3953 (Purchase Request and Commitment) for all hazardous chemicals or materials include the required information per AR 700-141.

d. Directorate of Plans, Training, Mobilization, and Security (DPTMS) will accomplish the following:

(1) Notify ISO within 1 hour of all accidents that occur in the training complex.

(2) Coordinate all range waivers (deviations) with the ISO.

(3) Ensure all ranges and training activities within the training complex are risk assessed and completed; approved assessments are maintained and reviewed annually.

(4) Coordinate all nonstandard training and risk assessments with the ISO.

(5) Ensure that a comprehensive range safety program is established.

(6) Monitor and provide heat stress (Wet Bulb Globe Temperature) information to personnel in the training complex.

(7) Ensure the ISO is involved from the inception in all range construction, renovations, modernizations, or modifications.

e. Directorate of Emergency Services is responsible for the below:

(1) Support ISO investigations to include providing necessary reports (see Chapter 3, this regulation).

(2) Assist in correcting potential traffic hazards.

(3) Provide ISO with a quarterly summary of traffic accident information collected through military police (MP) channels and daily MP blotters.

f. MEDDAC, Fort Knox will comply with the following:

(1) Upon request from the ISO, support accident investigations to include evaluations of human and environmental factors, which caused or contributed to the accident.

(2) Identify military patients treated for accidental injuries and occupational illnesses and provide telephonic notification to the ISO with information in accordance with (IAW) the Health Insurance Portability and Accountability Act.

(3) Coordinate with ISO on applicable aspects of industrial hygiene surveys and provide copies of all samples concerning respiratory protection.

(4) Be responsible for local hazard information module.

g. Civilian Personnel Advisory Center (CPAC) will adhere to the below:

(1) Establish administrative penalties for civilian abuses of any of the required programs contained within this regulation.

(2) Coordinate with ISO on all aspects of the Federal Employees' Compensation Act (FECA) Program in order to reduce unwarranted and lengthy lost workday claims.

(3) Consult with ISO during the negotiation of all safety aspects of employee organization contracts.

(4) Ensure union notification of any change in policy, practice, or working conditions provided by ISO.

h. Mission and Installation Contracting Command (MICC) is responsible for the following:

(1) Require safety plans IAW USACE EM385-1-1, Appendix A, commercial contracts for review and approval by ISO, identify the ISO as a member of all source selection boards, and include requirement for submission of safety plans in all service contract solicitations.

(2) Ensure contractors are advised during pre-performance conferences that all accidents involving contractor employees must be reported promptly to the contracting officer.

(3) Assist in the enforcement of contract safety requirements through close coordination with the ISO, DPW inspectors, Contracting Officer's Representative (COR), and contract administrators.

(4) Include in each contract or purchase order a requirement for the supplier to include with each shipment a copy of the applicable material safety data sheet (MSDS) and process through the hazardous material section.

(5) Inform the Installation Radiation Safety Officer (IRSO) at the ISO when contractor equipment containing radioactive material is brought on the installation.

i. Commanders and directors are responsible for the below requirements:

(1) Act as safety officers for their unit, directorate, or activity.

(2) Appoint additional duty safety personnel to accomplish assigned duties and responsibilities. Individuals must have at least 1-year retainability in the unit/organization. In troop units, the safety officer will be a commissioned officer at battalion/squadron or higher unit level and a staff sergeant or higher at company/troop level. The ISO will grant exceptions on a case-by-case basis.

(3) Publicize in all channels available for reporting unsafe and unhealthful working conditions, emphasizing personnel responsible for making such reports.

(4) Assure employee job descriptions accurately identify hazards, which the employee may be exposed to, the requirement for wearing specific items of personal protective clothing and equipment (PCE), and other unique safety requirements. Complete and have on record a Job Hazard Analysis (JHA) for all DA civilian employees.

(5) Establish procedures for ensuring personnel at all management and supervisory levels, who have safety-related tasks associated with their jobs, are identified and their duty assignments and job descriptions clearly reflect these responsibilities.

(6) Include safe practices and physical standards in all directives, standing operating procedures (SOPs), and training doctrine. Ensure a comprehensive SOP is prepared and readily available for each hazardous operation, e.g., range operations; severe weather plan; vehicle operations; welding; tire changing; use of simulators; field training exercise (FTX) operations; battery charging and storage; bivouac areas; fuel storage or refueling operations; storage and handling of ammunition and explosives; loading, storage, and handling of chemicals; communications and electronics; spray painting; radioactive equipment; etc. The SOPs will contain detailed operating procedures, emergency procedures, training required, and required inspections, as well as other applicable information.

(7) Develop and implement an accident prevention program encompassing all operations and activities under their control and establish specific written safety goals for their organization.

(8) Include safety objectives in all civilian supervisor performance plans, NCOERs, and OERs.

(9) Arrange to receive a safety orientation from the ISO within 30 days of assignment to a unit or directorate.

(10) Submit copies of publications implementing and supporting the safety program to the ISO (IMSE-KNX-SO). Examples are as follows:

(a) Standing operating procedures signed by current commander or director.

(b) Memorandum appointing safety officer, safety NCO, and unit safety council members.

(11) Identify and eliminate hazardous conditions, establish safe practices and procedures consistent with the mission, and motivate and instruct personnel in safe performance on and off duty.

(12) Ensure compliance with all appropriate provisions of this document and referenced safety regulations.

(13) Require all military and civilian supervisors to actively supervise performance of subordinates to ensure compliance with safety requirements. Require rigorous enforcement of the use of required personal protective equipment (PPE).

(14) Ensure safety officers and NCOs receive training and develop skills necessary to ensure competence.

(15) Require timely reporting of accidents as required in AR 385-10 and this document.

(16) Determine causes for each accident and take positive corrective action to preclude recurrence of a similar accident.

(17) Appoint a safety council at major subordinate units and directorate level. Safety councils will meet at least quarterly.

(18) Ensure safety briefings are presented to all personnel before holidays.

(19) Commanders, directors, command sergeants major, and first sergeants will complete the commander's safety course prior to assuming command/responsibilities.

j. Directors and commanders of organizations that are primarily administrative in nature with no extremely high, high, or moderate risk activities (e.g., Inspector General (IG), Directorate of Training, Doctrine, Combat Development, and Experimentation (DTDCD-E), etc.,) will comply with the following:

(1) Use this regulation as their safety SOP.

(2) Appoint a safety officer/NCO in writing per para 1-4i(2), this regulation.

(3) Not required to comply with HAZCOM requirements (e.g., SOP, posting of MSDSs, etc.). Office workers who only encounter hazardous chemicals in isolated instances are considered exempt from HAZCOM standard. OSHA has found most office products to be exempt (www.osha.gov).

(4) Not required to have a quarterly directorate safety council. However, they are required to participate in the installation Command Safety Council.

(5) Meet with the unit safety officer at least annually.

(6) Inspect work areas on an annual basis. Since these are low-risk work areas, quarterly inspections are not required. Inspection results will be maintained for 1 year. Unsafe conditions will be handled per requirements in Chapter 10, this regulation.

(7) Not required to have a radiation SOP.

(8) Not required to have tactical water safety plans.

(9) Provide safety training at least semi-annually: summer safety and winter safety training. Provide command safety briefings before all 3- and 4-day weekends. Training records will be maintained for 1 year.

(10) Inspect privately owned vehicles (POVs) belonging to military personnel before all holiday weekends, temporary duty (TDY) travel, permanent change of station (PCS) moves, and vacation trips; use Fort Knox Form 4650-E or comparable POV Inspection Checklist. Ensure that POV inspections are made available to all civilian DOD employees. The last record of inspection should be kept on file.

k. Supervisors are responsible for the following:

(1) Perform composite risk assessment/job hazard analysis to ensure the work environment complies with applicable safety standards and regulations, and those personnel under their supervision perform all operations in the safest possible manner consistent with the mission. Ensure employees under their supervision observe and comply with appropriate safety and occupational health rules and regulations, including the use of PPE provided for their protection. Supervisors will set the example in using PPE.

(2) Be responsible for accident prevention to the same extent as for production, services, mission, and training.

(3) Control unsafe acts or conditions that may be conducive to accidents; procure, maintain in sanitary working condition, and require use of PPE and devices necessary to protect employees from injury.

(4) Report unsafe workplace conditions to DPW for assistance in correction. Where DPW support will correct deficiencies, prepare DA Form 4283 (Facilities Engineering Work Request) and forward through ISO to DPW.

(5) Promptly evaluate and take action, as required, to correct hazards reported by employees or identified through accident investigation. Reprisal action will not be initiated or supported against employees who identify hazards, raise safety concerns, or engage in authorized SOH activities.

(6) Orient all newly assigned personnel concerning the hazards inherent in their job and work environment. Conduct regulatory training concerning specialized and general hazards in the workplace and methods for avoiding accidents.

(7) Report all accidents promptly. Conduct comprehensive factual investigations when on-duty injuries result in lost time.

(8) Ensure facts on civilian compensation forms are fully documented and accurately reported.

(9) Provide light duty for employees injured on the job when indicated by a medical treatment facility (MTF). When light duty is not available, the next higher employing echelon will attempt to find such duty.

l. Additional duty safety officers and NCOs will accomplish the below:

(1) Complete the Additional Duty Safety Course within 60 days of appointment. The course is available at USACRC Combat Readiness University - II.

(2) Become familiar with Army safety regulations; safety requirements for the unit; principles of accidents prevention; and safety aspects included in SOPs, field manuals, technical manuals, etc.

(3) Interpret safety policies and procedures for the commander, supervisors, and subordinate safety personnel.

(4) Supervise and conduct quarterly safety inspections of buildings and training sites, giving particular attention to recurring and serious hazards and new or varied operations. Keep all records of inspections on file for 5 years.

(5) Coordinate with supervisors to provide technical assistance for eliminating unsafe work practices.

(6) Provide prompt assistance with accident investigation and reporting. Review reports for completeness and accuracy and evaluate adequacy of corrective actions. Follow up to ensure corrective actions are taken.

(7) Maintain safety records on all near misses/injuries and analyze the unit's accident experience to determine accident patterns and then develop and implement countermeasures.

(8) Provide the commander or director with periodic safety progress reports and information concerning accidents.

(9) Provide assistance for commanders in conducting periodic briefings with supervisors, platoon leaders, and NCOs regarding the objectives of the safety program, methods of attaining these objectives, and the degree of success expected.

(10) Arrange for incorporation of safety practices in operating procedures, training publications, demonstrations, and exercises to ensure the safety of Army personnel and the public.

(11) Determine the need for and obtain material for safety training, safety promotions, and safety awards.

(12) Report directly to the commander/director concerning all safety and health issues.

m. Responsibilities listed above are for the overall general safety program. Responsibilities for specific areas or activities are provided in subsequent respective chapters addressing that subject.

Chapter 2
Reporting and Investigating Army Accidents

2-1. General. Accident reporting and investigating will be performed per the requirements of AR 385-10, DA Pam 385-40, and this regulation. The commander or supervisor directly responsible for the operation, material, or person(s) involved in an accident will ensure the following:

a. All accidents and near misses are investigated to obtain the facts and circumstances.

b. The appropriate report is prepared on each accident per instructions in this regulation, DA Form 285 (Technical Report US Army Ground Accident), DA Form 285-AB-R (US Army Abbreviated Ground Accident Report (AGAR)), AR 385-10, and DA Pam 385-40. These reports may include DA Form 285, DA Form 285-AB-R, and FK Form 5070-E (Fort Knox DA Civilian Safety Incident Report). The DA Form 285, DA Form 285-AB-R, and FK Form 5070-E will be forwarded to the ISO no later than 10 working days following the date of the accident. Reports will be reviewed at each level of the unit, directorate, and activity chain of command.

c. The following are minimum requirements for reporting military on-duty injuries:

(1) The DA Form 285 will be used only for reporting Class A and B, on-duty ground accidents. The DA Form 285-AB-R will be used to report all off-duty accidents and all class C and D, on-duty accidents.

(2) For an occupational illness or injury that requires more than first aid treatment or results in lost time from work beyond the day or shift on which it occurred, the unit a Soldier is assigned to will submit a completed DA Form 285-AB-R to the ISO.

d. Reporting of military off-duty injuries. When the injury requires more than first aid treatment or results in 1 or more lost workdays, the unit will submit a DA Form 285-AB-R.

e. For each on-duty fatality, a fully completed, typed, DA Form 285 will be sent through command channels to the ISO. The brigade/regimental commander or director will sign in block 68b. For each off-duty fatality, a fully completed, typed, DA Form 285-AB-R will be sent through command channels to the ISO. These will be signed by the brigade/regimental commander in block 42b.

f. The following criteria will be used in determining duty status. This criterion is for accident reporting purpose only and is not related to compensation or line of duty (LD) determination.

(1) On-duty status applies to Army personnel as listed below:

(a) Physically present at any location where they perform their officially assigned work (includes those activities incident to normal work activities that occur on Army installations, e.g., lunch or coffee break).

(b) Being transported by government, privately owned, or commercial conveyance for the purpose of performing officially assigned work (includes reimbursable travel in private motor vehicles for temporary duty but not routine travel to and from work).

(c) Participation in compulsory sports or physical training activities.

(2) Off-duty status applies to Army personnel who are not in an on-duty status, whether on or off Army installations.

g. Civilian Injuries. All duty related civilian injuries will be reported, using FK Form 5070-E, within 10 days of an incident/accident. You must consider any injury or illness to be recordable if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. You must also consider a case to meet the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. For the purposes of 29 CFR 1904.7 "first aid" means the following:

(1) Using a nonprescription medication at nonprescription strength (for medications available in both prescription and nonprescription form, a recommendation by a physician or other licensed care professional to use a nonprescription medication at prescription strength is considered medical treatment for recordkeeping purposes).

(2) Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment).

(3) Cleaning, flushing, or soaking wounds on the surface of the skin.

(4) Using wound coverings such as bandages, band-aids, gauze pads, etc., or using butterfly bandages or steri-strips (other wound-closing devices such as sutures, staples, etc., are considered medical treatment).

(5) Using hot or cold therapy.

(6) Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes).

(7) Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).

(8) Drilling of a fingernail or toenail to relieve pressure or draining fluid from a blister.

(9) Using eye patches.

(10) Removing foreign material from the eye using only irrigation or cotton swab.

(11) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means.

(12) Using finger guards.

(13) Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes).

(14) Drinking for the relief of heat stress.

h. Property or Vehicle Damage Accidents. The owning unit will submit a fully completed DA Form 285-AB-R, through channels, to the ISO for all GSA vehicle accidents and other accidents involving tactical vehicles resulting in $2,000 or more property damage.

2-2. Non-reportable Occupational Illnesses and Injuries.

a. Non-occupational Diseases. Injuries associated with non-occupational diseases where the disease itself, not the injury, is the cause of lost time (for example, a minor cut suffered by a hemophiliac, which results in time away from work).

b. Self-inflicted Injuries. Suicides, suicide attempts, or voluntary self-inflicted injuries (for example, Russian roulette).

c. Criminal Assault. Injuries that result from criminal activity where the intent was to inflict injury. These include cases of assault, rape, murder, offenses under Article 118, Uniform Code of Military Justice (UCMJ) (but not negligent homicide), voluntary manslaughter, and attempts to commit any of these offenses.

d. Prior-service Injuries. Injuries sustained before entry into service or employment unless they are specifically aggravated by current tenure of service.

e. Strains that result from pre-existing musculoskeletal disorders or minimal stress or strain (for example, simple, natural, nonviolent body positions or actions such as coughing or sneezing).

f. Hospitalization of a person solely for observation/administration purpose and subsequent release.

g. Adverse bodily reactions resulting directly from the use of alcohol or other drugs not administered by or under the direction of a competent medical authority are not reportable.

2-3. Fatality Review Board (FRB). An FRB will meet within 14 calendar days of an event to review accidental deaths of all Fort Knox Soldiers, both on and off duty, and on-duty DA civilians. The FRB will address personal data on the victims and individuals involved; pre-accident phase (chronological sequence of events occurring within 48 hours before the accident); synopsis of the accident; causative and contributing factors; an assessment of the unit's safety and accident prevention programs and initiatives; and corrective actions along with recommendations.

a. The FRB will be chaired by the CG, USAARMC and Fort Knox, or in his absence, the deputy commanding general (DCG), chief of staff (CofS), or garrison commander (GC). Membership is comprised of the following and will be supplemented as required:

(1) Chain of command from the first-line supervisor to the brigade commander or equivalent of the unit experiencing the fatality.

(2) Installation safety director.

(3) The MEDDAC commander.

(4) Provost Marshal.

b. In addition to the above members, all colonel-level commanders and directors from across the installation will attend the FRB.

Chapter 3
Centralized Accident Investigation, Ground (CAIG) Accidents

3-1. General.

a. Class A on-duty accidents, class B on-duty training accidents, and special case accidents as determined by the Director, Command Safety Office, US Army Training and Doctrine Command (TRADOC), will be investigated by a CAIG investigation board appointed locally or from the US Army Combat Readiness Center (USACRC).

b. A Class A accident is an Army accident in which the total cost of property damage is $1,000,000 or more, or an injury or occupational illness that results in a fatality or permanent total disability.

c. A Class B accident is an Army accident in which the total cost of property damage is $200,000 or more, but less than $1,000,000, when an injury or occupational illness results in permanent partial disability or when three or more personnel are hospitalized as inpatients as the result of a single occurrence.

3-2. Accident Investigation Boards.

a. The installation commander will appoint the local CAIG board (figure 3-1, this regulation) except when an accident is investigated by the USACRC. The accident investigation board will consist of three members. Additional persons may be appointed as needed for technical expertise. Members of the board will be selected from organizations other than the unit where the accident occurred. The president of the board will be a field grade officer or civilian equivalent. Board members will be relieved of all duties until the investigation is completed.

b. All CAIG investigation boards will employ general use accident investigation procedures IAW AR 385-10 and DA Pam 385-40 unless directed to do a limited use accident investigation by TRADOC. Investigation reports will include accident causes, contributing factors, actions recommended, and corrective actions taken. An equipment improvement report (EIR) or quality deficiency report (QDR) is required when material failure is a cause or contributing factor. Reports will be submitted to the ISO no later than 30 days from the date of the accident. A format for appointment orders of CAIG boards is at figure 3-l, this regulation. The board's written report will be kept confidential.

(Office Symbol) (Date)

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Duty Appointment

1. Effective (date), the following personnel are appointed as members of the Accident Investigation Board (Ground):

a. President - (Name, Rank/Grade, and Organization).

b. Recorder - (Name, Rank/Grade, and Organization).

c. Technical Advisors - (if applicable) (Names, Ranks/Grades, and Organizations).

2. Authority. AR 385-10.

3. Purpose. Investigate Army Accident: (Date, Unit, Equipment/Activity).

4. Period. From (Date) until investigation complete.

5. Procedures. Board will be conducted following the procedures for a general use or limited use accident investigation if so directed by HQ TRADOC.

(signature)
(signature block)

DISTRIBUTION:

Figure 3-1
Appointment Orders of CAIG Boards

3-3. Responsibilities.

a. Commanders will initiate the following actions upon learning of a Class A or Class B accident:

(1) Immediately notify the installation operations center (IOC). As a minimum, notification should include the information below; however, notification will not be delayed because certain elements are unknown.

(a) Date and time of accident.

(b) Name, social security number, and unit.

(c) Extent of injuries or damage.

(d) Type and location of accident and disposition of injured persons and damaged property.

(e) Hazardous or sensitive materials involved.

(f) Weather conditions at time of the accident.

(g) Brief synopsis of the event. Include alcohol/drug use, if applicable. For motor vehicle accidents, indicate if individual was wearing seat belt and had received accident avoidance training.

(2) Appoint a point of contact (POC) for the investigation and advise the ISO of the name and phone number of the POC.

(3) Ensure the accident site is secured immediately in coordination with MP/Criminal Investigation Detachment (CID) personnel and remains are secured until released by MP and ISO personnel.

(4) Obtain copies of military personnel, medical, and training records for all personnel directly involved in the accident. Civilian records will be obtained on request to CPAC.

(5) Provide witness information (names, ranks, telephone numbers, and summaries of any statements made) to the accident board.

(6) Obtain oil and fuel samples, as requested, from vehicles involved in the accident.

(7) Provide the accident board with a list of military personnel from whom blood and urine samples were taken.

(8) Coordinate all actions with appropriate authorities for accidents occurring in areas not under Army control.

(9) Secure operational, maintenance, and historical records of equipment involved.

b. The IOC will immediately notify the on-call ISO representative when notified of an accident after regular duty hours.

c. The Directorate of Emergency Services/Law Enforcement Command/MPs is responsible for the below:

(1) Dispatch emergency medical services (EMS).

(2) Provide initial accident site security.

(3) Ensure the accident site is not disturbed until photographs are taken and the accident investigation team arrives and releases the site.

d. The MEDDAC will provide the following:

(1) Evacuation and treatment of injured personnel.

(2) Medical records of personnel involved per provisions of AR 40-66.

(3) As requested, results of blood and urine samples obtained in those cases where a commander directs specimens to be obtained in order to determine whether a Soldier is under the influence of drugs or alcohol or where those specimens are routinely obtained per an autopsy protocol.

e. The DPW is responsible for the following:

(1) Minimize environmental damage. Cleanup of oil, fuel, and other hazardous material spills will be accomplished after coordination with ISO.

(2) Provide, as required, a suitable and secure area for storage of wreckage and perform technical inspection of wreckage.

f. Directorate of Logistics will complete the following:

(1) Test oil and fuel samples and perform technical inspection as requested by the investigation board.

(2) Provide, as required, transportation for USACRC board members for duration of the investigation.

g. The ISO is responsible for the following:

(1) First notify the CofS, USAARMC, and then the following organizations as required of a Class A or B accident:

(a) USACRC.

(b) TRADOC.

(c) US Army Forces Command.

(d) OSHA.

(e) Southeast Regional Office.

(f) Other concerned agencies.

(2) Serve as safety POC for the CAIG board.

(3) Ensure preliminary actions required by these instructions are initiated.

(4) Provide information concerning the accident and progress of the investigation to TRADOC Command Safety Office.

(5) Coordinate the activities and reports prepared and submitted by all agencies concerned with the accident and send reports to TRADOC Command Safety Office.

(6) Provide office space for the board.

(7) Provide the board with 1:50,000 maps that include the accident site.

(8) Obtain directives that pertain to the operation being conducted, which resulted in the accident.

(9) Obtain weather statements for the accident board.

(10) Coordinate billeting of USACRC team members.

(11) Telephonically notify DPTMS of requirements and qualifications for local board members.

(12) Obtain any special clearances necessary for access to the accident scene by board members.

(13) Arrange for special transportation, if required, to reach the accident scene (i.e., aircraft).

h. Directorate of Plans, Training, Mobilization, and Security will comply with the below:

(1) Provide a photographer, as required, to assist the board in photographing the accident scene.

(2) Ensure photo lab support to develop, print, and mount color photographs and slides is provided, as required, by the investigation board.

(3) Assist ISO in arranging for accident board special transportation requirements (i.e., aircraft).

i. The Adjutant General (AG) will ensure that personnel records of all military personnel involved in the accident are readily available for review by the accident board. Provide copies, upon request, of specific portions of the records.

j. Commanders and directors of personnel appointed to serve as CAIG board members will ensure that priority is given to accident investigation duties to ensure prompt completion of the investigation.

3-4. Findings and Recommendations. Responsible commanders will be briefed on tentative findings and recommendations at the conclusion of the investigation.

3-5. Collateral Investigations under Provisions of AR 15-6.

a. The USACRC or local safety accident investigation does not relieve commanders of the requirements to conduct a LD investigation or collateral board investigation per AR 15-6 and AR 385-10. However, the LD investigation or collateral board will not interview witnesses or disturb the accident site until authorized to do so by the President, USACRC Accident Investigation Board, or local investigation board president.

b. The CAIG program is not intended to interfere with, impede, or delay law enforcement agencies in the execution of regulatory responsibilities as they apply to the investigation of accidents for a determination of criminal intent or criminal acts. Neither investigation should hamper the other since accomplishment of both investigations is in the best interest of the Army. Per AR 195-2, Criminal Investigation Activities, law enforcement agencies have priority to witness and access accident sites. The prudent exercise of this priority will permit accomplishment of the CAIG mission, without conflict, with law enforcement requirements.

3-6. Privileged Information. Accident reports and associated documents are privileged information and cannot be used as evidence or to obtain evidence in any disciplinary action.

3-7. Investigation Procedures. An investigation is a systematic examination to disclose all relevant facts. The accident investigation board has two functions as listed below:

a. Determine all established, probable, or suspected factors that caused or contributed to the accident.

b. Evaluate and analyze the acquired information and develop recommendations for actions that will prevent recurrence of similar accidents.

3-8. Board Procedures. The president will take action to ensure that a thorough investigation is conducted. They should avoid the tendency to investigate the most readily apparent cause. An inclination to first determine the cause and then investigate to prove the initial conclusion must be avoided. The findings of the board must be based upon a complete and impartial evaluation of all available facts.

a. Basic Phases. The basic criteria for the detailed procedures of investigation may vary with the type of accident. The investigation must be well organized to ensure continuity of effort from the preliminary examination to the submission of the final report. This is most readily accomplished by dividing the investigation into phases.

b. Orientation and Examination Phase. This phase provides the opportunity for a thorough examination of all aspects of the accident.

c. Data Collection Phase. The collection of data is the consolidation of all information acquired and substantiated to include notes, statements, charts, diagrams, and photographs. As information is collected, it should be assembled and consolidated to provide data for analysis.

d. Analysis of Data Phase. If consolidation of data is not accomplished, accurate analysis is difficult or impossible. In addition to assisting in the analysis, consolidation of data will reduce the possibility of error, omission, or lack of attention to a particular area of interest. Only when these deficiencies are known can action be taken to obtain the necessary information before it is lost in salvage of the wreckage, destruction of the accident scene, or unavailability of witnesses. A careful and complete analysis of data compiled is required to establish the cause of an accident. If this analysis does not clearly establish the cause, all available information will be used to establish probable causes and possible contributing factors.

e. Conclusions Phase. The results of the analysis phase are reflected in the conclusions of the board. Each conclusion must be based on facts that were established during the investigation.

f. Recommendations. The investigation board's recommendations must be the result of mature deliberation based upon factual causes and findings.

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Chapter 4
Prevention of Vehicle Accidents

4-1. Driver Training. All Army motor vehicle (AMV) drivers will be trained and tested per AR 600-55. Accident avoidance training and the Army Motorcycle Safety Course are designed to reduce motor vehicle accidents by training and motivating personnel to drive defensively.

a. Accident Avoidance Class (AAC).

(1) All personnel who are required to drive an AMV will successfully complete an Army- or DOD-recognized AAC every 4 years. This course is available on the USACRC Combat Readiness Center University - II. The AAC cards are not installation specific and remain valid upon PCS, TDY, and leave.

(2) Drivers of Army-owned or -leased buses, military police vehicles, ambulances, fire trucks, fueling vehicles, vehicles carrying hazardous cargo, crash-rescue vehicles, 12/15-passenger vans, or other emergency vehicles must complete additional training required in AR 385-10 and AR 600-55.

(3) Units and organizations are responsible for completing the training.

(4) Attendance at an AAC is not a prerequisite for driving a tracked vehicle nor is it a prerequisite for obtaining a learner's permit to operate a tracked vehicle.

(5) Optional Form (OF) 346 (US Government Motor Vehicle Operators' Identification Card) will not be issued to personnel until they have completed the AAC.

b. Army Motorcycle Safety Course.

(1) The Automated IMCOM Registration System web site is used to register for motorcycle and driver training on Fort Knox at https://airs.lmi.org/. Course schedules are available for viewing and registration by simply clicking on the "View Available Courses" button under the Soldiers and civilian personnel paragraph. On the next page select Fort Knox from the drop down menu, and then select the course you are interested in.

(2) Drivers, including military dependents, may register for available courses. The course manager will then confirm your registration and you and your commander will receive an automatically generated confirmation e-mail.

(3) Six training motorcycles are provided for the Basic Rider Course.

(a) If a basic rider student wants to use their own bike in order to register for a full class, we can accept up to six more on a case-by-case basis, providing the student transports their bike to and from the course by truck or trailer and it meets training bike standards.

(b) If the student wants to allow a licensed friend who has already had the course to ride it in, that same friend must ride it back to the student's home.

(c) The student is not allowed to ride their own or a borrowed bike to or from the course.

(4) Students must comply with protective equipment requirements in paragraph 4-11b, this regulation.

4-2. DA Form 348 (Equipment Operator's Qualification Record) Documentation. The following information will be included as a minimum on DA Form 348 or the Unit Level Logistics System (ULLS) Equipment Operator's Qualification Record:

a. Accident avoidance training and date.

b. Safety awards.

c. Army motor vehicle accidents.

d. Civilian and military traffic points and citations.

e. Operator's training completed.

4-3. Military Vehicle Seat Belts.

a. Seat belts will be inspected by the operator before use to ensure they are functional. Damaged or nonfunctioning seat belts will be repaired before the vehicle is driven.

b. All personnel operating or riding as passengers in AMVs or Army combat vehicles (ACVs) will wear installed seat belts.

c. Load bearing equipment (LBE) and load bearing vest will be removed if they interfere with the operation of the seat belts.

4-4. Ground Guides.

a. Ground guides will be proficient in the use of hand and arm signals. Ground guides will walk 2 meters outside the path of the vehicle when space permits and a minimum of 10 meters in the front or rear of the vehicle they are guiding.

b. Continuous visual contact will be maintained between the vehicle commander (VC) or the driver and the dismounted guide.

c. Ground guides will be utilized in the cantonment area when escort vehicles are not available for tracked vehicles or where visibility is restricted.

d. Two ground guides will be used while backing tracked vehicles and while maneuvering in close quarters.

e. Ground guides will be used in the following situations and as the commander dictates:

(1) On bypasses around unserviceable bridges.

(2) Around roadblocks.

(3) On shoulders of narrow roads.

(4) In bivouac areas.

(5) When crossing roads.

(6) To direct movement of all tracked vehicles and tactical wheeled vehicles except high-mobility multipurpose wheeled vehicle (HMMWV) and commercial utility cargo vehicle (CUCV) type vehicles in motor pools.

(7) When backing buses, vans, and 2½ ton and larger trucks, tactical and non-tactical. If ground guides are not available, the driver will dismount, go to the rear of the vehicle, and check clearance before backing the vehicle.

f. During periods of reduced visibility, ground guides will wear high visibility clothing and use flashlights. Units will be responsible for providing equipment during periods of reduced visibility.

4-5. Safe Transportation of Personnel.

a. Driver Qualification. Vehicles will not be used to transport personnel during driver training.

NOTE: Only qualified drivers experienced on the vehicle to be used will transport personnel. Before transporting personnel, drivers will receive a briefing on the route and hazards they may expect to encounter.

b. Types of Transportation. Personnel will be transported in passenger-type vehicles, such as sedans, vans, or buses to the maximum extent possible. When these types of vehicles are not available, cargo vehicles may be used. Personnel may be transported without fixed seating for short distances on post (cantonment area) only if each passenger remains seated wholly within the body of the vehicle, and the body of the vehicle is equipped with stakes or sideboards along

with a fully enclosed cargo canvas that is fully secured. Flatbed trucks without stakes or sideboards will not be used to transport personnel. Bus passengers will be seated, and bus capacity will not be exceeded. Field gear and equipment will not be placed in bus aisles.

c. Military personnel in an on-duty status may be transported in the cargo bed of military pickup trucks provided the following safety procedures are followed:

(1) Cargo bed is enclosed with either a canvas or hard-shell topper.

(2) Vehicle tailgate must be closed and secured.

(3) Passengers must be seated on the cargo deck with no portion of their body overhanging the vehicle sides or rear.

(4) Vehicles without fixed seating used to transport personnel will not be operated off post or on range roads.

d. Transportation of off-duty military personnel, civilian personnel, and Family members in the cargo bed of military pickup trucks, at any time, is prohibited.

e. Transportation of military personnel in the cargo bed of civilian pickup trucks, at any time (on-duty or off-duty, on-post or off-post), is prohibited.

f. Transportation of civilian personnel and military Family members in the cargo bed of civilian pickup trucks, at any time, on post is prohibited and is strongly discouraged off post.

g. Personnel will not be transported in engineer dump trucks unless the vehicles are equipped with fixed seating for all passengers, an approved positive anti-dumping device is installed, and a means to ease boarding and off loading is provided.

h. Driver Responsibilities. Drivers of cargo trucks, pickup trucks, and dump trucks carrying passengers will follow the rules outlined below:

(1) Walk to the rear of the vehicle and ensure the tailgate and safety strap are secured and all passengers are seated before starting.

(2) Walk to rear of vehicle after stopping, release the safety strap, and lower the tailgate before permitting passengers to dismount. Passengers will not jump from vehicles.

(3) Drivers will not move a vehicle if any personnel are in an unsafe position, such as standing or sitting on the tailgate or the sides of truck.

(4) Before backing a vehicle, the driver will check for clearance and sound the horn. When visibility is blocked or limited, drivers will use ground guides. If ground guides are not available, the driver will walk around the vehicle to check clearance before backing.

(5) Vehicles transporting passengers will not tow other vehicles or equipment.

(6) Drivers will ensure there is adequate ventilation to prevent accumulation of exhaust gases in the cargo compartment or cab of the vehicle.

i. Personnel will not ride in vehicle cargo area when transporting equipment or any other materials.

j. Vehicle Capacities. The passenger carrying capacities listed below are for normal passenger carrying operations and are consistent with safety policies and design features of the vehicles. The passenger capacities apply only when the vehicle is properly equipped with fixed seats. The maximum number of passengers authorized and the maximum speed limit will be stenciled on the dashboard of tactical vehicles. The following is derived from TB 9-639:

Passenger-carrying capacity of tactical and administrative vehicles commonly used to transport personnel.

Vehicle	Passenger Capacity
2 ½-Ton Cargo Truck	14
2 ½-Ton Extended Cargo Body Truck	18
2 ½-Ton Dump Truck	10
5-Ton Cargo Truck	16
5-Ton Extended Cargo Body Truck	20
5-Ton Dump Truck	12
5/4-Ton HMMWV Troop Carrier	8
5/4-Ton M880, M88I, M882	8
GSA Cargo Truck w/stakes or sideboards, along with a fully enclosed cargo canvas, that is fully secured	14

NOTE: The passenger capacity does not include the operating crew. Refer to the operator's manual for vehicles not listed above.

k. A VC will be on-board all tactical wheeled vehicles; the only exception is command HMMWVs. A VC will be on-board all training unit non-tactical vehicles operated off post or on range roads; exceptions may be granted by a LTC-level commander/director on a case-by-case basis and will include a risk assessment. Only the lead vehicle must have a VC when more than one vehicle is traveling together. Positive communication, such as a cell phone or radio, must be carried in vehicles for use in an emergency.

4-6. Tire Chains. Tire chains will be used at the commander's discretion but will not be used when driving on dry pavement. Guidance concerning tire chains on fuel tankers is in FM 10-67-1, Concepts and Equipment of Petroleum Operations.

4-7. Military Motor Vehicle Operation. This section applies to both wheeled and tracked vehicles.

a. Before operation, vehicles will be properly dispatched and preventive maintenance checks and services (PMCS) conducted.

b. Smoking is prohibited within 50 feet around all military vehicles.

c. Vehicles will not be started or allowed to run without a driver seated at the driver's station.

d. Drivers and assistant drivers will be trained, qualified, and licensed on the vehicle they are operating. In addition, drivers transporting personnel or hazardous materials must receive training required by AR 600-55. Transportation of personnel and hazardous material training and certification for drivers is in TC 21-305 and TC 21-306, The Military Commercial Driver's License Driver's Manuals.

e. The senior occupant of the vehicle is responsible for safe operation of the vehicle.

f. Drivers will ensure that windshields and vision blocks are clean and free of obstructions. All drivers, gunners, air guards, and track commanders will wear goggles when windshields are down or when riding in open hatches.

g. Drivers of vehicles with radios will be cautioned concerning dangers of operating near high voltage wires. Antennas will be tied down (no lower than 3 meters) when the vehicle is in motion. Keep antenna caps firmly in place and if necessary, use tape to secure the cap in place.

h. Engage parking breaks when vehicles are parked. All military vehicles will be equipped with and use chock blocks when parked.

i. Personnel will not sleep in vehicles with the engine running or on the ground under or around vehicles. Drivers will check under and around vehicles before starting engines or moving vehicles.

j. Ground guides will not position themselves between two vehicles or between a vehicle and a fixed object.

k. Vehicles will not be loaded above their capacity, and all loads will be secured.

l. Special care will be taken by drivers hauling tanks of liquid that are only partially full to ensure liquids do not shift in turns and overturn trailers or vehicles.

m. Personnel will be instructed on the proper procedures for coupling and uncoupling trailers.

n. The use of safety chains between trailers and prime movers with ball or pintle hitches is mandatory.

o. When crossing hazardous terrain or obstacles where danger of overturning is possible, passengers will dismount.

p. When crossing on post roads where the oncoming traffic has the right-of-way, road guards must be used. Road guards must wear high visibility devices when controlling traffic. In addition, red baton flashlights or flares must be used during periods of darkness or when visibility is otherwise reduced to 500 feet or less. Road guards will be posted 500 feet on either side of the crossing site to halt and warn motorists of the crossing.

NOTE: Road guards cannot stop traffic off post. Off-post crossings must be coordinated through DES/LEC.

q. Vehicles will maintain adequate intervals to ensure safe stopping under all conditions. Dust, fog, and other conditions, which restrict visibility, require greater intervals. All vehicles must operate at a speed safe for road conditions.

r. Towing of any vehicle will be accomplished IAW the vehicles' technical manual and FM 4-30.31.

s. Any vehicle above the size of a sedan designed to transport personnel will come to a complete stop at unguarded railroad crossings and check in both directions before crossing when transporting personnel. All personnel will exit a vehicle stalled on railroad tracks. In case of damage to railroad tracks at Fort Knox, the Transportation Officer, Directorate of Logistics (DOL), will be notified immediately.

t. Movement of military vehicles under blackout conditions is prohibited on roads open to the public unless prior arrangements have been made to close the road to public traffic. Coordination with Range Branch, Training Division, DPTMS, is required for all blackout driving conducted in the training complex.

u. Police Call. Vehicles used to conduct police call will be identified with signs and four-way flasher lights. Vehicles will not stop in the lane of traffic, and personnel will not lean out of a moving vehicle to retrieve trash. Personnel conducting police call along roadways will wear a reflective vest. Roadway police call will not be conducted during peak traffic times or during periods of reduced visibility such as fog, snow, or darkness. Police call will be planned to minimize the number of times Soldiers must cross traffic lanes.

v. Transport of Sensitive Cargo. When not in a convoy, all military vehicles transporting sensitive cargo (e.g., weapons, ammunition, and high dollar items) will have a senior occupant the rank of SGT or higher. Battalion commanders are authorized to grant exceptions to this

requirement on a case-by-case basis. The DOL TMP vehicles driven by TMP drivers are exempt from this requirement.

w. Wear of Headgear in General Services Administration (GSA) Vehicles, ATVs, and ACVs.

(1) The GSA vehicles. Headgear will be worn at all times while driving or occupying these vehicles. The beret or drill serg3eant campaign hat is authorized while driving a GSA vehicle in garrison. The Kevlar helmet (KH) or Army combat helmet (ACH) will be worn while driving a GSA vehicle in the training area.

(2) The ATV and ACV. Soldiers operating or riding as a passenger in an ATV or an ACV will wear head protection at all times, whether in garrison or the training area. Head protection is defined as the KH, ACH, or combat vehicle crewman (CVC) helmet. This head protection requirement applies to all units, regardless of their installation of assignment. Exceptions must be approved by the CG, USAARMC and Fort Knox.

4-8. Tracked Vehicle Safety.

a. Tracked Vehicle Operations. Operation of tracked vehicles will be per this and other applicable Fort Knox regulations, as well as appropriate technical and field manuals.

b. Commanders will adhere to the guidelines in AR 600-55 for the selection and training of tracked vehicle drivers.

c. General Safety Precautions.

(1) Each tracked vehicle will have a driver and a TC who will ride in the commander's hatch. The TC must be a licensed driver who is experienced and competent in track vehicle operations. The TC and driver of a tracked vehicle must maintain communication while operating the vehicle. Before powering up and moving a track vehicle, the TC will clear all personnel from around the vehicle. In the event of an emergency, the TC will follow all safety precautions described in the TM and unit SOPs pertaining to that particular vehicle. Units will use ground guides to move a track vehicle when communications are inoperable or there is no TC.

(2) "POWER" will be announced and acknowledged by all crewmembers before a vehicle is started and before operating the main gun or turret.

(3) Units will not start or run tracked vehicles without a driver seated at the driver's station. Tracked vehicles will not be started unless the portable and fixed fire extinguishers are present and operational.

(4) Open hatch covers will be tested by shaking them vigorously to ensure latches are locked in position. Open hatch covers will be securely fastened with the safety pin to preclude accidental closing during movement of the track.

(5) All personnel will wear either an issue CVC helmet or a KH with earplugs. Personnel supporting vintage vehicle displays will adhere to the uniform requirements established for the event. Personnel participating in authorized opposing force activities will wear the appropriate protective headgear identified by the supporting battalion/squadron commander.

(6) All personnel who operate tracked vehicles under blackout driving conditions will receive drivers training for night operations. At a minimum, training will include the following:

(a) Night vision goggle (NVG) use and fundamentals of night vision.

(b) Ground guide procedures.

(c) Sensory illusions at night.

(d) Effects of stress and fatigue.

(e) Night driving road test and speed limits.

(7) All items, both inside and outside the turret, will be secured before movement.

(8) Aerosol cans, solvent, fuel, and other flammable items will not be transported inside a tracked vehicle. Flammable or combustible items will not be stored near personal heaters. Tank turrets and interior of other tracked vehicles will be kept free of needless clutter that could intensify a fire or hinder evacuation.

(9) Vehicles will not ford or swim unless water depth is known. Refer to appropriate vehicle TM for fording and swimming precautions.

(10) Tracked vehicle emergency evacuation drills will be conducted quarterly to ensure crew proficiency. This requirement applies to instructors and mechanics, as well as tank crews, since they are also subject to emergency evacuations.

(11) Riding on the outside of vehicles is prohibited. Request for exception to this requirement, along with a risk assessment, must be submitted to the ISO for review and approval. Personnel riding in hatches will be at nametag defilade (e.g., only head and shoulders exposed).

(12) Tracked vehicles crossing bridges will comply with the following restrictions:

(a) Tracks in Tow: One-way crossing only; center tanks on bridge; no stopping, starting, or turning; uniform speed not to exceed 5 mph; and only one towing tank at a time on bridge.

(b) Tracks (self-propelled): One-way crossing only; center tank on bridge; no stopping, starting, or turning; uniform speed not to exceed 8 mph; and minimum spacing of 100 feet.

(c) Tracked vehicles traveling in any configuration (i.e., self-propelled, towed, or hauled) will not exceed bridge weight limits.

(13) Crewmembers will warn each other of impending hazards, (i.e., rollovers, turret rotation, or rough terrain).

(14) Units must secure accident scenes with a guard for Class A and B accidents (fatality; permanent, total, or partial disability; three or more personnel hospitalized; $200,000 or more damage; and vehicle fires). Leave all vehicles and equipment in place until released by the ISO.

4-9. Privately Owned Vehicle Operation. Privately owned vehicle accidents constitute the Army's most common cause of fatalities and serious injuries. While commanders or supervisors do not control POV operators similar to those operating Army motor vehicles, there are numerous areas of influence, which may be used to reduce losses. The following elements shall be included in unit POV safety programs:

a. The Army Six-point POV Accident Prevention Program. This is a comprehensive program designed to aid commanders in reducing the risk of POV accidents. It consists of the following elements: command emphasis, discipline, risk management, standards, providing alternatives, and commander's assessment.

b. The POV Inspection Program. This program will be established in all military organizations and conducted before all holiday weekends. The POV inspections will be conducted using FK Form 4650-E (POV Inspection Checklist) or equivalent unit specific checklist by a competent person who is selected by the chain of command.

c. Safety Briefings. Commanders will conduct quarterly POV safety briefings that emphasize seasonal driving hazards. Briefings will also emphasize the use of restraint systems, driving while fatigued, use of alcohol, and speeding. Commanders will also conduct safety briefings before holidays, TDY travel, PCS moves, and any passes or leaves.

d. Safety Restraint Usage.

(1) Soldiers will use a restraint system while driving or riding in a POV with a restraint system required by Department of Transportation (DOT) or other equivalent transportation authority. The restraint system will be worn at all times, both on and off Federal installations.

(2) All civilian personnel, including visitors, will use a restraint system while driving or riding in a privately-owned or government-owned vehicle. The restraint systems will be used on Federal installations at all times and off Federal installations when the vehicle is used for official business.

(3) Individuals will not ride in seats where manufacturer-installed occupant restraints have been removed or rendered inoperative.

e. The POV Risk Assessment. Prior to all long distance trips (leaves, vacation, TDY, PCS) a POV composite risk assessment will be completed. Use the automated version at https://crc.army.mil, and select the TRIPS tab.

4-10. Bicycle Operations. Personnel who operate bicycles on Fort Knox roadways will comply with the following:

a. Obey all traffic laws and traffic control devices. Do not ride bicycles on pedestrian sidewalks, except that children under 5 years may ride on sidewalks in their housing area when accompanied by a competent parent or other adult caretaker.

b. Do not wear headphones or earphones while riding a bicycle.

c. Adhere with the following during the hours of darkness:

(1) Bicycles will be equipped with one light in front, which will clearly reveal objects at least 50 feet ahead.

(2) Bicycles will be equipped with one red light or red reflector in the rear.

(3) Bicyclists will wear a high-visibility vest or other reflective gear.

d. Bicyclists will wear approved bicycle helmets.

e. Do not ride in the training complex or on range roads without approval of Range Branch, Training Division, DPTMS.

4-11. Motorcycle Operation. Military and DOD civilian personnel who operate motorcycles on Fort Knox roadways will comply with the below list. In addition, the requirements of this section are applicable to military personnel when operating these vehicles off post.

a. Motorcycle operators will have the following in their possession:

(1) A valid motorcycle driver's license.

(2) An Army Motorcycle Safety Course card as evidence of completing an Army-approved motorcycle safety course. Visitors and Family members riding motorcycles on Fort Knox are not required to have an Army Motorcycle Safety Course card.

(3) Proof of insurance and vehicle registration.

b. All motorcycle operators will wear the below items:

(1) A DOT-approved helmet properly fastened under the chin.

(2) Shatter resistant goggles or full-face shield properly attached to helmet or wrap around sunglasses.

(3) Full-fingered gloves.

(4) Long trousers and long-sleeve shirt or jacket.

(5) Over-the-ankle shoes or boots.

(6) Either a brightly colored upper outer garment (i.e., long-sleeve shirt or jacket) or a brightly colored cover (e.g., vest) over the upper outer garment during daylight hours.

(7) Either an upper outer garment with reflective material (patches, stripes) sewn into it or a reflective cover (e.g., vest) over the top of the upper outer garment during hours of darkness.

(8) A PT belt, if used, will be worn diagonally over the shoulder.

(9) Backpacks, if used, will also have reflective material or a reflective strap on the back and sides of the backpack.

c. Motorcycle will have a rearview mirror mounted on the handlebar or fairing.

d. Wearing of headphones or earphones, operating built-in headset in approved helmets, or inserting any audio device into the ear is prohibited while riding on Fort Knox.

e. Motorcycle will have headlight turned on at all times.

f. Military and DOD civilian personnel will not register or ride their motorcycle on post until they complete the Motorcycle Safety Course. The only exception is riding a motorcycle to the scheduled training course.

g. Military personnel will not ride their motorcycle on or off post until they complete the Motorcycle Safety Course.

h. Military riders will perform a T-CLOCS inspection on their motorcycles periodically and before any road trip outside of commuting distance. Civilian riders are encouraged, but not required, to perform the periodic T-CLOCS. The checklist is available at http://www.knox.army.mil/center/safety.

i. Motorized scooters, pocket bikes, mopeds, and like conveyances will not be operated on Fort Knox.

4-12. Off-road Vehicles (ORVs) and All Terrain Vehicles (ATVs).

a. The operation of personally-owned ORVs (four-wheel drive pickups and similar vehicles) in off-road areas on Fort Knox is prohibited, except for Hunt Control. The operation of personally-owned ATVs on any Fort Knox road or off-road area is prohibited.

b. When ATVs are authorized for use on post, all drivers will be trained and licensed. Drivers and riders will wear a helmet (which meets the Department of Transportation 218 motorcycle safety standards), goggles or face shield, full-fingered gloves, long trousers and long sleeve shirt or jacket, and leather boots or over-the-ankle shoes. The operator of an ATV will not carry more people than what the vehicle was designed for.

4-13. Specialty Vehicles (M-gators and Like Vehicles). Operators and drivers will be trained IAW AR 385-10. Unauthorized usage of the M-gator can compromise the safety of Army personnel and equipment. Users will limit usage of the M-gator to these parameters:

a. The M-gator cannot be used to evacuate litters or carry casualties.

b. A maximum of two occupants, front seats only, is allowed. Rated load limits must be followed. Helmet and eye protection are required for driver and passenger.

c. All loads over 50 pounds must be securely strapped to cargo tie-downs in the rear and to the cargo shelf in the front.

d. The M-gator is not designed to be towed; damage to the chain drive, transaxle, and tires will occur per the manufacturer.

e. The M-gator should NOT tow trailers, because it has not been evaluated by test personnel for its ability to tow trailers.

f. The effects of air drops have been minimally assessed. After air drop and before operation, the operator must visually inspect the M-gator for damaged or loose components and for fluid leaks to ensure safe operation.

g. The M-gator will not be driven on public roadways except to cross the roadway, and it will only be driven on a public roadway at designated crossing points or with a ground guide.

h. Ammunition must be on a pallet and securely strapped down in the rear cargo area.

i. Future M-gators purchases must have the seatbelt and roll bar attachments.

4-14. Skateboards, Rollerblades, and Like Conveyances. These devices will not be ridden on Fort Knox streets, sidewalks, or parking lots. The only places authorized for riding them are on outdoor basketball and tennis courts and the new skate park by the Devers Youth Center.

Basketball and tennis players have priority on the courts at all times. Helmets, knee/elbow guards, and other recommended safety equipment designed for the conveyance will be worn at all times.

4-15. Operation of 12- and 15-passenger Vans.

a. All personnel who operate a 12 or 15-passenger van are required to complete the 15 pax van Driver Improvement Course available at the military occupation specialty (MOS) library. Additional copies are available from the ISO.

b. During general dispatch of a 12 or 15-passenger van, TMP will require all operators to have in their possession a certificate of Driver Improvement Course completion. For those 12 or 15-passenger vans that are permanently assigned to a unit, the commander/director will ensure all operators have a certificate of completion.

Chapter 5
Personnel Movement on Roadways

5-1. Marching. When marching along a roadway within the cantonment area, troops will march to the right side, as far off the road as possible. In all cases, troop movements will minimize interference with vehicular traffic. Supervisors of troops will be positioned to effectively control the movements of troops, and offer no impediment to traffic. Road guards will be dispatched to all intersections in sufficient time to allow vehicular traffic to halt without endangering the lives of troops or creating traffic hazards. All foot columns will comply with traffic signals. Road guards will wear reflective vest and use extreme caution by looking to the right, left, and front before entering an intersection.

5-2. Unit Formation Running. Policies governing safety of unit formation running have been established by DPTMS. These policies include established restricted areas and prescribed physical training uniform.

a. Policy.

(1) Each brigade has an established unit running route. All other major activities and tenant organizations will conduct unit runs on the brigade running route nearest that organization's training site. Unit formation running is restricted to the confines of Fort Knox.

(2) Unit formation runs will be completed before 0800 or commence after 1600 on duty days.

(3) A vehicle speed limit of 10 mph will be observed while approaching and passing running troops and on running routes designated by the GC.

(4) Units will run only three abreast for safety purposes (large length units will be broken into small groups).

b. Safety Equipment.

(1) Advanced front road guards will be placed 15 meters in front of the formation, front road guards will be placed 10 meters in front of formation, and rear road guards will be placed 30 meters to the rear of the formation.

(2) Personnel left of formation (i.e., cadence callers, unit leaders, platoon sergeant, executive officer, commander, etc.,) will wear a road guard vest.

(3) Every fifth person on the left and right side of formation will wear a road guard vest or reflective belt.

(4) Stragglers will be followed by vehicles with emergency flashers turned on. If vehicles are not available, cadre wearing road guard vest will follow.

(5) All road guards will be provided with reflective vests and baton flashlights.

5-3. Recreational Walking and Jogging. All personnel using installation roadways for recreational walking and jogging will comply with the following at all times:

a. Wear reflective belt/vest whether in PT uniform or wearing civilian clothes

b. When jogging with others on the roadway, run in a single file.

c. Use sidewalks where available and practical.

d. Always walk and jog facing traffic.

e. Use extreme caution when crossing streets and at intersections. Obey all traffic signs and signals.

f. Individual walkers and runners or informal groups of walkers or runners must yield the right of way to all vehicular traffic. Walkers or runners have right of way over vehicles only at marked crosswalks.

g. Use of headphones is prohibited while walking/jogging on post streets.

h. Personnel will not walk, run, or jog on range roads or in the training complex without approval from Range Branch, Training Division, DPTMS.

5-4. Running Routes. All runners, joggers, and walkers (both on and off duty) will comply with the routes outlined on the installation-controlled running routes map.

Chapter 6
Field Training Safety

6-1. General. Accidents and injuries tend to increase during field training exercises (FTXs) if safety is not an integral part of the exercise. Lack of safety planning and failure to adequately prepare all individuals involved are primary causative factors. Inappropriate procedures, ignorance of proper procedures, and disregarding procedures characterize many accidents during FTXs. Requirements of this chapter apply in both the field and garrison environment.

6-2. Safety Management and Organization.

a. The exercise commander will appoint an assistant safety officer to serve as the overall exercise safety director, and a sufficient number of assistant unit safety officers will be appointed to ensure adequate hazard control and safety guidance at all levels.

b. A safety "stand-down" will be held before deployment to ensure all participants are properly indoctrinated.

c. All participating personnel will be briefed on exercise hazards and countermeasures, both before and subsequent to arrival at the training site.

d. Vehicles and equipment will be thoroughly inspected and safety deficiencies corrected before deployment. Vehicle and equipment operators will be trained and licensed before the exercise. No untrained, unlicensed personnel will operate vehicles or equipment.

e. Commanders will establish sleep plans before the exercise. Sleep plans will take into account tactical situations and risk factors involved in determining sleeping locations.

f. Composite Risk Management procedures will be formally included in all phases of the exercise. The purpose is to identify potential safety risks and prescribe precautions to reduce or eliminate hazards, which might cause an accident. Risk assessments prepared for FTXs will be coordinated with the ISO. Daily risk assessments will be conducted on all range and training area activities and a signed, dated, DA Form 7566 or equivalent form, will be on site at the training event.

g. A plan will be developed to ensure that all personnel know what to do in the event of severe weather (tornado, lightning, etc.,).

6-3. Vehicle Movement. The requirements in Chapter 4, this regulation; Fort Knox Reg 385-22, Range Regulation (Training/Impact Areas); and Fort Knox Reg 350-7, Ground Movement Control Policy, apply during all field training.

6-4. Training Areas.

a. Personnel will not erect tents or sleep in the open near roads, trails, or other areas where vehicles might travel.

b. Flammable materials will be stored and used properly. Gasoline will not be stored inside buildings or tents, nor will it be used as a cleaning agent or solvent. Flammable liquids will be stored a minimum of 50 feet from tents and vehicles.

c. Generators, refueling vehicles, and electrical equipment will be properly bonded and grounded.

d. Operation of kitchen equipment, M2 burners, generator equipment, lanterns, and related equipment will be restricted to trained and licensed personnel. The area around the equipment will be cleared of flammable and combustible materials to prevent ignition.

e. Firearms and ammunition will be strictly controlled. All ammunition residue will be turned into Muldraugh Ammunition Storage Area (MASA).

f. Vehicles and trailers will be parked in such a way to prevent them rolling into the bivouac area.

g. Vertical antennas will be located a distance of at least twice the antenna's height from power lines to preclude contact during assembly or disassembly.

h. Open fires are not allowed in the training complex.

i. All range roads are controlled access roads and restricted to authorized personnel only. Traffic is limited access to "Required Personnel Only" east of Baum Range. The only other traffic to this point is limited to occasional persons who fish at the Directorate of Family and Morale, Welfare, and Recreation (DFMWR)-maintained Lake Douglas, which is south of the range road (7th Armor Division). Signs are posted west of Baum Range.

6-5. Heaters.

a. The use of personally owned, electrical, or non-vented combustion-type heaters is prohibited. Only approved heaters will be used. Approval will be obtained from the Fort Knox Fire Department, and the user will maintain a copy of the approval.

b. Electric or other domestic type space heaters will not be used or installed without specific written approval. Government-issue tent stoves will not be used in buildings. These stoves may be used in tents if properly installed.

c. Before use of any portable heater, commanders/directors will ensure that the following is accomplished:

(1) A written SOP that embodies the principles of this regulation is present.

(2) Heaters are set up by competent personnel familiar with leak test procedures. Only personnel trained, tested, and licensed, per AR 600-55, will operate heaters.

(3) Each heater is inspected by the responsible unit fire or safety representative.

(4) Each heater is set up, fueled, used, and maintained per applicable TM. Only fuels approved for use and specified in the applicable TM will be used. Different types of fuel will not be mixed.

(5) Heaters are vented to the outside of the tent, structure, or shelter using the vent pipes provided with the heater.

(6) All heaters are equipped with an emergency fuel shut-off.

(7) Heaters are set up on a firm and level fireproof base located in a marked area free of clothing or combustible material. A 4-foot area around the heater and vent pipe will be maintained clear of combustible material.

(8) A fire watch is on duty any time solid or liquid fueled heaters are in use. The fire watch will be briefed on procedures for fire fighting with appropriate extinguishing agent and early recognition of signs of carbon monoxide (CO) poisoning.

(9) Heaters are not operated while unattended.

(10) If the fuel tank is a separate component of the space heater, it will be located on the outside of the tent or shelter and marked with the type of fuel it contains. Fuel lines will be protected from damage; under no circumstances will heaters be operated with fuel line leaks.

d. Adequate ventilation will be provided for all types of fuel-powered equipment to prevent accumulation of CO. Carbon monoxide detectors are not to be used in a field environment, are not designed or proven for outdoor use, and do not have a means for calibration. Carbon monoxide detectors used in an outdoor environment provide a false sense of safety and early warning.

6-6. Bivouac Areas.

a. Vehicles will not be operated in the bivouac area without a ground guide.

(1) Ground guides must remain with the driver's field of vision at all times.

(2) During hours of darkness ground guides must have illumination to carefully search the ground in the vehicle's path.

(3) Ground guides must ensure they do not blind the driver by shining lights directly at them.

b. Vehicle parking shall be in designated parking areas only. Transmissions shall be in gear or the park position, and the emergency brake set with wheel chocks in place.

c. Soldiers will not sleep inside vehicle cabs, under, on top of, in front of or behind vehicles, and not within six feet of the sides of vehicles.

Chapter 7
Convoy Operations

7-1. General. The planning and coordination involved in convoy operations require aggressive staff action. Convoy operations are planned according to Fort Knox Reg 350-7 and FM 55-30. Army regulations 55-80 and 55-162 provide guidance on oversize/overweight vehicles and convoy moves. A single heavy equipment transporter or other heavy equipment transport vehicle carrying a load constitutes a convoy. In addition, four- or more wheeled vehicles, two- or more tracked vehicles, or a combination of three- or more wheeled and tracked vehicles in joint movement within a 60-minute period, constitute a convoy for the Fort Knox training area. Civil highway authorities set limits on vehicle weight, length, width, and height on off-post movement to ensure the safety of the highway user and preclude damage to the infrastructure. Department of Defense policy states that no vehicle movement that exceeds legal limitations or regulations or subjects highway users to unusual hazards will be made without permission from state, local, and/or toll authorities. Waivers for vehicle movement will be processed through the installation transportation office.

7-2. Responsibilities.

a. Unit commander will comply with the following:

(1) Ensure a composite risk assessment is conducted before convoy departs, and route recons will be conducted when time permits. Common risk factors outlined in FM 55-30, Fort Knox Reg 350-7, and Fort Knox Reg 385-22 will be considered.

(2) Ensure the safety of personnel and equipment during convoys.

(3) Designate a convoy commander.

b. Convoy commander is responsible for the below:

(1) Be the senior ranking officer with the convoy, and will be a minimum grade of E6. Convoy commander will remain with the convoy at all times.

(2) Ensure each vehicle has an assistant operator or senior occupant.

(3) Ensure proper towing equipment and procedures are adhered to.

(4) Ensure all personnel are in correct uniform and have appropriate equipment for the environment.

(5) Brief all drivers, assistant drivers, and senior occupants on the following before departure:

(a) Hazardous areas and conditions.

(b) Safe following distance.

(c) Convoy maximum speed and catch-up speed.

(d) Route including a strip map.

(e) Rest periods.

(f) Signals.

(g) Precautions taken at the halt.

(h) Actions taken for disabled vehicles.

(i) Traffic control.

(6) Ensure vehicles used to transport fuel and ammunition are placarded and loaded to regulatory specifications, equipped with the appropriate fire fighting equipment, and located at the rear of the convoy.

(7) Ensure drivers operating vehicles used to transport hazardous materials receive training required by AR 600-55.

(8) Ensure ammunition and fuel are transported separately.

(9) Prohibit smoking within 50 feet of any vehicle.

(10) Establish and maintain communications with the lead and trail vehicles.

(11) Ensure medical personnel are scheduled and posted in the rear of the convoy.

(12) Not assign a driver to drive an Army motor vehicle for more than 10 continuous hours, nor will the combined duty period exceed 12 hours in any 24-hour period without at least 8 consecutive hours of rest.

c. The senior ranking occupant of each vehicle is responsible for the following:

(1) Safe operation of the vehicle.

(2) Ensure before, during, and after PMCS is completed.

(3) Ensure vehicle basic issue items are present on every vehicle and that warning triangles and fire extinguishers are present.

(4) Ensure radio whip antennas are tied down and covered with a protective ball at the tip.

(5) Ensure adequate seating arrangements for all vehicle occupants. Personnel will not ride on the outside of tracked or wheeled vehicles and will adhere to nametag defilade position.

(6) Inspect the operator's OF 346 and DA Form 348 to ensure the operator is properly licensed, trained, and qualified to operate the vehicle.

(7) Ensure that all occupants use available restraint systems.

(8) Ensure personnel wear hearing protection as required by the type of vehicle.

(9) Prohibit headphones or earphones, which are not part of vehicle communication system, from being worn while driving Army motor vehicles.

(10) Enforce proper speed limits.

(11) Ensure ground guides are used when backing vehicles and when vision is restricted.

(12) Assist in posting reflective warning triangles along roadways to warn approaching motorists when the vehicle is halted or disabled in a location that might obstruct traffic.

d. Vehicle operators will adhere to the following:

(1) Not drive an Army motor vehicle for more than 10 continuous hours, nor will the combined duty period exceed 12 hours in any 24-hour period without at least 8 consecutive hours of rest.

(2) Complete PMCS before, during, and after operations.

(3) Ensure personnel are in a safe, seated position with safety restraints worn.

(4) Ensure all hatches are locked and secured.

7-3. Convoy Control Factors.

a. Convoys as defined in para 7-1, this regulation, applies to the below requirements.

(1) Convoys will be escorted by lead and trail vehicles equipped with rotating amber warning lights (RAWLs), convoy flags, signage for lead/follow vehicles, and two-way radios to maintain contact with each other.

(2) Under no circumstances will POVs be used as lead or trail vehicles.

(3) Personnel will not be transported in the trail vehicle, and the trail vehicle will not tow a trailer.

(4) All convoys operating off post must have a properly issued convoy permit.

b. The convoy commander will designate the staging area and starting points with the help of movement control center personnel.

c. Vehicles with headlights, taillights, brake lights, or turn signals not operational will be considered non-mission capable.

d. Vehicles not meeting safety requirements will not be allowed to move. Failure to follow instructions or any unsafe conditions will cause shut down of the operation until corrective actions are taken.

e. Track vehicles will be positioned at the rear of wheeled vehicles in a convoy. Tracked vehicles will not be used as the trail vehicle.

NOTE: Make every effort to convoy wheeled and tracked vehicles separately.

f. Vehicle drivers will maintain a minimum interval of 6 meters between vehicles when halted or when engines are idling. In designated training areas, tracked vehicles will halt in a herringbone or staggered formation if the terrain permits. For administrative parking, i.e., in a holding area, vehicles will be parked side by side or in a herringbone or staggered formation but not bumper to bumper.

g. During daytime operations, maintain a minimum interval of 5 meters between vehicles in a convoy. Night convoy operations requiring blackout marker lights will maintain vehicle intervals as outlined in FM 21-305 and TC 21-306.

h. Vehicles do not have the right of way at road or rail crossings.

i. Equip oversized or overweight vehicles with RAWLs visible to approaching and passing vehicles.

j. A senior occupant will ride in the lead and trail vehicles of a convoy.

k. Speed will be adjusted to the environmental and weather conditions.

l. All vehicles will remain in single file throughout the movement. Passing while in a convoy is strictly prohibited unless passing a disabled vehicle. Always pass a disabled vehicle with caution and at a reduced speed.

m. Use warning triangles and flashers to warn other traffic of a hazardous condition. Place triangles a minimum of 100 meters to the front and rear of the disabled vehicle and highly visible to oncoming traffic.

n. Designate a recovery maintenance vehicle to assist disabled vehicles and position near the rear of the convoy.

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Chapter 8
Ammunition and Explosives Safety Program

8-1. General.

a. This chapter prescribes specific procedures and responsibilities to ensure safe handling and storage of ammunition and explosives on Fort Knox and at facilities supported by the Fort Knox Ammunition Supply Point (ASP). In the event of conflicting requirements between this regulation and the regulations of higher headquarters, the most stringent will be followed.

b. Pyrotechnics, ammunition, explosives, paintball guns, or other projectile-producing devices will not be used in the cantonment area except when approved by the Commander, US Army Garrison Command through the ISO. This policy will not apply to the fenced military operations on urbanized terrain (MOUT) training area covered by 194th Armored Brigade SOP; these will be approved by the ISO. Approvals will be granted on a case-by-case basis. For recurring training exceptions, policy will not be granted for more than a 3-month period.

8-2. Responsibilities.

a. The ISO is responsible for the following:

(1) Monitor installation operations for compliance with explosives safety standards.

(2) Be responsible for explosives storage licensing.

(3) Participate with DOL and the user in explosives site submissions and the layout preparation of new and revised storage facilities.

(4) Evaluate and process requests for explosives, safety waivers, and exemptions.

(5) Thoroughly staff explosives safety actions before forwarding to TRADOC to ensure that operational needs are satisfied.

(6) Conduct annual inspections of all ASPs.

(7) Conduct random inspections of ammunition storage areas to verify compliance with explosives storage standards.

(8) Monitor ammunition uploads and other activities involving transportation and storage of ammunition.

(9) Assist tenant units and satellite facility managers with explosives safety program requirements.

(10) Review the Quality Assurance Specialist (Ammunition Surveillance) quarterly inspection reports.

(11) Participate in the preparation of Department of Defense Explosive Safety Board (DDESB) submissions.

b. Director, DPW will adhere to the following:

(1) Provide for testing lightning protection systems of ammunition storage facilities as required by DA Pamphlet 385-64, appendix D.

(2) Provide engineering support necessary to ensure explosives safety standards are met.

(3) Ensure ammunition is stored per the explosives storage license and applicable explosives safety requirements. Inform all tenant units and satellite facility commanders of the license limits for facilities they occupy.

(4) Notify the ISO of conditions that require license modification, DDESB submissions, etc.

(5) Provide the following items for review upon request by personnel of the ISO:

(a) A complete inventory by storage facility showing DOD activity address code nomenclature, quantity, and total net explosive weight.

(b) Current lightning protection subsystem inspection report. All lightning protection subsystems are required to be inspected visually every 6 months and electrically every 24 months.

(c) Copy of work orders submitted for correction of safety deficiencies.

8-3. Pyrotechnics. The following policy will be adhered to when pyrotechnic simulators are used:

a. The issue, use, and handling of simulators are restricted to trained officers and NCOs and designated civilians. Training will, as a minimum, include the proper use, hazards associated with, and the training value of blanks and simulators. Each device will be demonstrated to show how it functions and how unsafe employment may cause injury. Trainees and other untrained personnel will not handle simulators.

b. All training officers and NCOs associated with an exercise where simulators are used will receive a safety briefing beforehand on correct throwing procedures, potential hazards and precautions, and misfire and dud procedures. All other personnel participating in the exercise will receive the same briefing even though they are not using or handling simulators.

c. Follow instructions provided by MASA when using the M116A1 or M115A2 Ground Burst Projectile (artillery or hand grenade) simulators since certain restrictions and constraints apply.

d. The use of aerial pyrotechnics in Training Areas 8, 9, 10, 11, 12, 13, and 14 are prohibited.

e. All pyrotechnic use in the training complex will be coordinated with Range Branch, Training Division, DPTMS.

f. All dud pyrotechnics will be reported to Range Branch, Training Division, DPTMS.

g. Within the US Army Armor School (USAARMS), the following restrictions will apply:

(1) Tank crew instructors (TCIs) will handle machine gun simulation systems (MGSSs) and exploding type simulators.

(2) The TCIs will control smoke grenades and flares, but Armor Officer Basic students may ignite and throw.

(3) Armor Officer Basic students may handle blanks under direct supervision of the TCIs.

8-4. Blank Small Arms Ammunition. The following policy will be adhered to when firing blank small arms ammunition:

a. Bright red blank firing attachments will always be used.

b. The minimum safe distance for unprotected personnel from small caliber ammunition is 15 feet.

c. Approved single hearing protection will be worn.

d. During force-on-force training, approved eye protection will also be worn.

8-5. Smoke. The following precautions will be followed for all smoke training, including hexachloroethane, high explosive, white phosphorous, plasticized white phosphorous, fog oil, red phosphorous, colored smoke, and diesel smoke.

a. Personnel participating in exercises, which includes the use of smoke, will carry the protective mask.

b. Personnel will mask for the following:

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

(2) When passing through or operating in smoke such as smoke blankets and smoke curtains.

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

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

(5) When using smoke during MOUT training while operating in enclosed spaces. Care must be taken not to enter spaces where oxygen has been displaced because the protective mask is not effective in oxygen deficient atmospheres.

(6) Smoke generator personnel will mask.

c. The use of smoke within the cantonment area is prohibited.

8-6. Ammunition/Weapons Malfunctions Reporting Procedure.

a. A malfunction is defined as the failure of an ammunition item to function as expected when fired or launched causing injury, damage to the weapon, or renders the weapon temporarily inoperative or when explosive items function under conditions that should not cause functioning. Malfunctions include hangfires, misfires, duds, abnormal functioning and premature functioning of explosive items under normal handling, maintenance, storage, transportation, and tactical deployment. Malfunctions do not include accidents or incidents that arise solely from negligence, malpractice, or situations such as vehicle accidents or fires. Misfires of small arms ammunition, which are corrected by immediate action procedures, are not considered as a malfunction.

b. In the event of a malfunction, the commander or person in charge of the firing unit will comply with the following:

(1) Immediately cease firing the suspected ammunition/weapon and shut down the range, secure the firing site, and notify range control providing the following information:

(a) Range, observation point (OP), firing point, training area, and grid coordinates.

(b) Type and caliber of ammunitions.

(c) Type of malfunction.

(d) Time/date of malfunction.

(e) Name of officer in charge.

(f) Name, unit, and telephone number of person.

(2) Range Operations will in turn notify the Local Ammunition Officer, quality assurance specialist, ammunition surveillance (QASAS), Range Safety Specialist, the AMC weapon system Logistics Assistance Representative (LAR), and ISO Director.

(3) Unless overriding safety or security considerations exist, the immediate malfunction area, including equipment and weapons, will not be disturbed before an investigation is conducted. Weapons, ammunition, and brass involved in malfunctions will remain undisturbed and under guard until cleared, normally by the Ammunition Surveillance Officer or QASAS, or until incident investigation is completed by all parties. After the initial investigation by the Ammunition Surveillance Officer or QASAS and ammunition is determined not to be a factor in the malfunction, the unit can coordinate with Range Control to resume normal operations for the other firing points.

c. After being informed by the firing unit of a malfunction, the local ammunition officer of the storage activity, or the QASAS, will immediately respond.

(1) After their preliminary inspection (assisted by range control), the QASAS, the safety officer, and the AMC weapon system LAR, when appropriate, will gather data as necessary for all reported malfunctions and prepare a preliminary report. The QASAS will locally suspend affected ammunition and immediately notify all units in possession of suspended stock.

(2) The preliminary report will not be delayed if an ammunition officer or QASAS is not available. The range safety specialist, or in his/her absence, the installation safety specialist for range will prepare the report on the DA Form 4379.

(3) The ISO Director, thru the IOC, will make the notification on all information relayed to any off post agency. The appropriate AMC commodity command will notify the malfunction location within the continental United States (CONUS) within 24 hours from receipt of the preliminary report as to whether an on-site Department of the Army investigative team for malfunctions (DAITM) investigation will be conducted. Where no DAITM on-site investigation is conducted, a local investigation will be conducted by the Ammunition Surveillance Officer, QASAS, Range Safety Officer, LAR, and the ISO.

8-7. Uniform Requirements for Crew During Live-fire Training. Crew will wear the following attire during live-fire:

a. The standard CVC uniform consisting of Nomex coveralls, Nomex gloves, and the CVC helmet. If Nomex gloves are not issued, standard Army field gloves will be worn.

b. If Nomex coveralls and gloves are not available, the uniform will be army combat uniform (ACUs) with the shirtsleeves completely rolled down and buttoned. The top button of the ACU shirt will also be buttoned with collar turned up. Standard Army field gloves and the CVC helmet will also be worn with this uniform. While Nomex is clearly preferred, the ACU can be worn if the commander's composite risk assessment supports this action.

c. The old type coveralls may also be worn if Nomex coveralls are not available.

d. Underwear must be 100 percent cotton, and boots must be leather.

8-8. Fire Extinguishers. A minimum of two fire extinguishers (10 BC or more) will be on site where Hazard Class 1.1, 1.2, or 1.3 explosives/ammunition is stored. One fire extinguisher (10 BC or more) will be on site where Hazard Class 1.4 is stored.

8-9. Weapons Clearing Barrels. Clearing barrels will be placed at locations within the garrison where weapons are routinely cleared and are required on ranges and in the training complex. Commanders and leaders will ensure all Soldiers are properly trained on how to clear a weapon. These procedures will be reinforced whenever weapons are issued.

a. The clearing barrel must be a 30- or 50-gallon container at least 14 inches wide and 24 inches deep filled with sand. The sand used must be free of rocks and other debris. It must also be kept dry, since wet sand can cause ricochets. If the barrel is outdoors, dry sand must be placed in a plastic bag and tied before placing in the clearing barrel. The installation safety office (ISO) has detailed drawings and instructions for constructing clearing barrels. Clearing barrels and safety zone markings must be painted red or yellow. Each clearing barrel must comply with the following:

(1) A ¾-inch piece of plywood or thick rubber mat covering the diameter of the container fitted directly behind the lid to reinforce it against muzzle blast.

(2) Mounted at a height of 18 to 24 inches and at an angle of 45 degrees to permit safe and smooth firearms clearing.

(3) An aiming point in the center of the front lid at least 4 inches in diameter and 1 inch deep.

(4) A tray affixed under the aiming point (opening) of the barrel to prevent dropped rounds from falling to the ground.

(5) The floor area below the clearing zone covered by rubber or other resilient matting to help prevent a dropped round from functioning. A 36-inch safety zone must be marked with a painted line 4 inches wide on the ground or floor area immediately surrounding the clearing barrel.

b. Written arms clearing procedures must be posted above the clearing barrels for each type of firearm stored in the arms room. The print must be large enough to be easily read from inside the clearing zone. The procedures may be printed on flip charts or interchangeable cards. The written clearing procedures must also be written in international languages if foreign nationals are expected to use the clearing barrel.

8-10. Close Combat Mission Capability Kit (CCMCK) and Paintball Use

a. General. Procedures described below apply to both CCMCK and paintball use. The CCMCK is a Soldier installed "drop-in" weapons modification system that allows the user to employ his/her individual weapon (M16/M4/M249/M9/M11) at short range using low velocity marking ammunition (5.56mm and 9mm). The ammunition is designed to be safely fired at opponents at close ranges and is designed to "mark" impacted targets with a paint or dye. The system provides normal weapon employment cues (aiming, firing, ejection, immediate action, load, re-load, etc.,) and immediate target feedback. As a safety feature, standard ammunition cannot be fired in a weapon with the CCMCK bolts installed. The complete system is comprised of user conversion kits for the service weapons, marking ammunition/cartridges, and mandatory safety equipment.

(1) Service weapon kits.

(a) The M16 and M4 rifle kits use the same adapter kit and are a straight one-for-one bolt and carrier group exchange. A blue enameled portion of the bolts is visible through the ejection port of the weapon.

(b) The M249 kit consists of a blue-colored feed tray and bolt/bolt carrier assembly.

(c) The M9 kit consists of a replacement barrel only. The M11 kit consists of a replacement barrel and recoil spring guide. A blue enameled portion of the M9 and M11 barrels is visible through the ejection port of the weapons.

(2) Marking ammunition/cartridges. The marking cartridges do not contain any explosives/propellants other than one or two commercial off-the-shelf primers. The marking cartridges have a clear dome-shaped projectile that reveals a colored marking compound. When the projectile hits the target, the compound is ejected and marks the target.

b. Safety. Use of the CCMCK safety gear and XM1041 9mm ammunition is considered Low Risk. Use of the XM1042 5.56mm ammunition is considered Medium Risk. The following restrictions and limitations must be enforced:

(1) Do not use live ammunition with the modified bolt systems. Ensure personnel participating in the exercise are briefed regarding the prohibition of the use of live ammunition.

(2) If a marking round becomes lodged in the barrel, do not fire additional rounds; this may cause damage to the weapon.

(3) When not firing a weapon, ensure it is on SAFE. Take special care to secure the M4 carbine and M16 rifle because it has inadvertently fired when dropped from a height of five feet onto the muzzle.

(4) The CCMCK must be used with the standard sun/wind/dust goggle ballistic lens, the UTM face mask/balaclava, or the FX9000 face mask/balaclava.

(5) The minimum engagement distance for XM1042 and XM1071 5.56mm UTM ammunition is 5 meters and it is suggested that a minimum distance of 10 meters is used for the M249 squad automatic weapon. The point of aim should be limited to the torso area, and no head/bare skin shots will be taken. Rounds fired at this distance and up to 30 meters may result in bruising and raised welts.

(6) The CCMCK system includes mandatory safety equipment (face/eye protection, throat protection, armor vest, and groin protection) to prevent injury to operators or trainers. The safety equipment strategy must adhere to the "train-as-we-fight" philosophy and maximize the use of current standard clothing equipment, e.g., configure Soldiers with standard issue (uniform, body armor, gloves, goggles, etc.) equipment. All skin must be covered.

(7) Participants should be warned that the marking dye will be difficult to remove from their clothes.

(8) The 5.56mm-linked ammunition shall not be de-linked for use in the M4 or M16 rifle, this causes the cartridge to forcefully eject from the ejection port.

(9) Single hearing protection is required for all combatant participants and officials while firing CCMCK systems.

(10) The CCMCK should be used in open and well-ventilated areas as firing from the CCMCK produces effluents, which could be harmful to participants firing from enclosed spaces.

(11) All weapons and adapters kits will be maintained in strict accordance with the manufacturer's operation and maintenance manuals.

(12) After the training has ended, a final inspection of the barrel and chamber will be accomplished to ensure that no marking ammunition remains in the weapon.

(13) This system will not be used in less than 36 degree outside air temperature.

c. Training Areas. The safety buffer zone around CCMCK training is 200 meters; CCMCK training will not be conducted within 200 meters of the installation boundaries. Unit commanders, OICs, and trainers must ensure anyone within this buffer zone adheres to the

provisions of paragraph 8-10b, this regulation. Commanders must ensure that CCMCK training is conducted a minimum of 200 meters from publicly traveled roads, facilities, and equipment that is not part of the training exercise. The brass residue from all CCMCK must be policed and returned to the ammunition supply point just like other residue.

(1) When training with the CCMCK in an Urban Operations Area is complete, commanders and trainers must ensure facilities are sterilized from paint markings, to the greatest extent possible, to ensure the next user has the same quality training resource afforded to them.

(2) Commanders will use KNOXINFO to alert personnel of the dates, times, and areas that CCMCK training will be conducted. Range technicians will notify units during sign on procedures concerning locations of any signs to be posted for a particular training area.

(3) Medical requirements will be IAW Fort Knox Policy Memo No. 9-08, Medical Support Training. On-Site (Point) Medics are required during MOUT exercises utilizing Simmunition (SRTA, CCMCK) or live fire.

d. Neither CCMCK or paintball systems will be used in temperatures below 25 degrees Fahrenheit (F) wind chill. Below 36 degrees F wind chill, CCMCK or paintball ammunition shall be stored at 65 degrees F or greater for a minimum of two hours prior to use. Exposure to temperatures less than 36 degrees wind chill for one hour requires another two hours of warming at 65 degrees F or greater before further use. During that one of exposure to less than 36 degrees F leaders must frequently check ammunition to ensure pliability. If pliability is lacking, operations will immediately cease and ammunition will be re-warmed IAW the above guidance.

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Chapter 9
Rail Operations

9-1. General. Safety is most important in the discharge of duty. Obedience to the rules is essential to safety and completing the mission. Personnel must use care to prevent injury to themselves and others. They must be alert and attentive at all times when performing their duties and plan their work to avoid injury. Personnel must report any accidents, personal injuries, or any unusual conditions affecting the safe and efficient operation of the railroad by the first means of communication to the ISO. A written report must follow promptly when required.

9-2. Responsibilities.

a. Unit Commander will accomplish the following:

(1) Before beginning rail-loading operations, unit commanders will ensure a composite risk assessment is conducted. Risk factors outlined in FM 55-20 will be considered. Coordinate risk assessments with the ISO.

(2) Unit commanders will appoint a train commander to be responsible for overall supervision and coordination of the movement.

b. The Train Commander is responsible for the following:

(1) Must be rail load trained and thoroughly familiar with train movement procedures per FM 55-21 and TM 55-2200-001-12.

(2) Must ensure all up-loading/off-loading operations are coordinated through Fort Knox Transportation before operations are undertaken.

(3) Ensure care is taken to avoid damage to equipment, damage to rail cars and rail property, and injury to personnel during operations.

(4) Ensure all blocking, bracing, and lashing of equipment on the rail cars are per Change 4, TM 55-2200-001-12, or applicable service manuals. Particular attention must be devoted to positioning of tank main guns and turrets, and height of equipment on top of rail cars.

(5) Make certain that properly constructed spanners and tow-bars are available for use.

(6) Inspect lighting facilities at the railhead if rail cars are to be loaded at night. If lighting is inadequate, make arrangements for additional lights. If lighting is not available, rail loading and unloading will cease at sundown or dusk.

(7) Brief all personnel involved in rail loading and unloading on safety requirements and procedures.

(8) Determine if there are any special safety restrictions for a particular railhead.

(9) Ensure proper signals, such as a blue flag, indicating a working train is used, and skid shoes are in place to prevent movement of rail cars being worked.

(10) Establish controls to assure only trained and qualified personnel operate vehicles and equipment on and off rail cars.

(11) Assure loading and unloading operating personnel are off and clear of rail cars before the cars move.

(12) Assure proper stowage and segregation of hazardous material per applicable directives.

9-3. Overhead Electrical Wires and Underground Conduits.

a. Wires may carry up to 25,000 volts in and around rail yards and tracks.

b. Contact with, or placement of, any metal object within 10 feet of these wires could attract current from the wires and cause electrocution of personnel.

c. All antennas will be removed from a vehicle before loading on the rail car. Antennas will not be reinstalled until the vehicle has been unloaded from the rail car and moved away to a safe location.

d. Individuals climbing on equipment on rail cars must do so only when necessary, and they must have others observing and maintaining three points of contact. Individuals must never stand up on vehicles.

9-4. Ground Guides. Ground guides will be designated and used to move vehicles on or off a rail car. They will be instructed to comply with the following:

a. Use proper hand signals.

b. Stay in view of the driver at all times.

c. Be positioned one rail car ahead of the rail car to be loaded or unloaded when directing drivers, except when a second or third vehicle is being placed on the rail car. The second and third vehicle will move forward only after the first vehicle has stopped completely.

d. Observe all safety precautions and not take any unnecessary risks.

e. Not walk backwards on the railcars. Guides moving vehicles onto rail cars will position themselves, guide the vehicle forward, stop the vehicle and reposition themselves, and then guide the vehicle forward.

f. Wear reflective vests.

9-5. Cranes. Cranes may be used for up-loading/off-loading operations when impractical to drive it on or off rail cars.

a. Crane operators must be familiar with rail operations and be trained and qualified on the crane to be used. Cranes will not be operated without stabilizers in place per the crane operator's manual.

b. Crane loads must have directional control ropes secured to each corner of the load to prevent uncontrolled swing. Sufficient crew must be available to man the ropes. Ropes must be long enough to ensure crew will not be placed in jeopardy by swinging or dropped loads.

9-6. Briefing. Before the start of actual operations, personnel will be briefed to increase their awareness of accident-producing situations and to emphasize the following procedures:

a. Hazardous or unprofessional acts such as horseplay and venturing into unauthorized areas will not be tolerated.

b. No sleeping in, on, under, or around rail cars.

c. Ground guides will escort all vehicles on or off the rail cars.

d. All personnel will stay clear of rail tracks.

e. Personnel will not pass between, under, or over standing or moving rail cars.

f. Extreme caution will be taken when performing tasks near overhead power lines to assure adequate clearance.

g. Vehicles will not be driven backwards on or off the rail car.

h. Speed limits will be enforced in the rail yard and operating areas.

i. Running and jumping on or off of railcars or from car to car is prohibited.

j. Personnel will wear Kevlar helmets or industrial hard hats and leather gloves.

k. Military personnel participating in rail loading operations will remove LBE, LBV, and body armor.

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Chapter 10
Hazard Identification

10-1. General. The identification and correction of unsafe practices and unsafe physical conditions through safety inspections is essential to a successful accident prevention program.

10-2. Inspections. To properly direct efforts to eliminate the cause of accidental injuries and property damage, safety inspections must be conducted at all levels. Minimum requirements for safety inspections are as follows:

a. All personnel have a responsibility to report safety hazards and safety violations to their supervisor. Additional duty safety officers will inspect operations and facilities and record the results of the inspection on FK Form 4517-E (Quarterly Safety Inspection).

b. The ISO personnel will inspect work sites and facilities using the SASOHI procedures described in AR 385-10. These inspections may be conducted with or without prior notification.

(1) A written report of deficiencies observed by ISO during the inspection will be provided to the commander/director of the activity inspected. These reports will cite hazard severity, safety program achievements and deficiencies, and recommended corrective action. A copy of all surveys will be maintained by the ISO.

(2) The unit or activity inspected will be required to respond to the ISO in writing concerning corrective action taken on each cited deficiency within the time frame indicated on the inspection report. Follow-up procedures will be established by the unit to ensure each deficiency is corrected.

10-3. Abatement Plans.

a. The establishment of a site-specific abatement plan is required by 29 CFR, Part 1960, Occupational Safety and Health Programs for Federal Employees. These plans are required by DOD and the US Army for all violations in categories I through III, requiring more than 30 days to correct.

b. The DOD provides an internal channel for situations where the most effective means to correct a hazardous situation may be through application of local alternate measures in place of OSHA standards. The installation, after consultation with appropriate labor relations representatives, may petition through the chain of command to major command level for approval of a variance, which adopts a local alternate safety or health measure.

c. Violations often require abatement plans solely because preparing, processing, scheduling, and actually doing the work requires more than 30 days. For this reason, any safety hazard that requires a DPW work request to correct will forward a DA Form 4283 (Facilities

Engineering Work Request) to the ISO by the activity responsible for correcting the problem. The ISO will assign a composite risk assessment code to the work request and forward it to DPW.

10-4. Reports of Unsafe or Unhealthful Working Conditions.

a. Whenever possible, reports of unsafe or unhealthful working conditions should be handled at the operational level to ensure timely correction in the following order of priority:

(1) Oral reports directly to the supervisor.

(2) Reports through operational channels.

(3) Phone calls or memos to the ISO.

(4) The Army Hazard Reporting System.

b. The Army Hazard Reporting System provides a route for personnel to bring complaints directly to the installation level and bypass intermediate commands or supervisory elements.

(1) If an employee is not satisfied with action taken to correct the alleged condition, they may make a written report to the Director, ISO, on DA Form 4755 (Employee Report of Alleged Unsafe or Unhealthful Working Conditions). This form is available at the ISO. Refer to DD Form 2272 (DOD Safety and Occupational Health Protection Program), November 2000, for reporting hazards.

(2) Reports submitted to the ISO will be investigated per AR 385-10. Reports of alleged unsafe and unhealthful working conditions will be forwarded to the appropriate organization for response. Responses will be furnished to the ISO within 7 working days.

(3) All DA personnel, both military and civilian, will be protected from coercion, discrimination, or reprisals for participating in the Army SOH Program and exercising lawful occupational safety and health rights.

(4) Reports requesting anonymity will be handled per provisions of AR 385-10.

(5) Reports that appear to involve immediate life-threatening situations will be investigated immediately.

(6) All reports will be investigated by safety or health personnel. The originator, if known, will be notified of the results of the investigation in writing within 10 working days following receipt of the hazard report.

(7) If the originator is dissatisfied with the safety director's response, he or she may appeal to the installation commander who will review the findings and take appropriate action.

(8) If the originator is dissatisfied with the installation commander's response, he/she may appeal to HQ TRADOC, ATCS-S. The originator may further appeal to the Army designated SOH official and finally the DOD designated SOH official if appeals are rejected at any point in the chain.

(9) Personnel are encouraged not to bypass review levels prescribed above.

(10) Reviews will normally be completed within 20 work days. Personnel are advised that if an appeal is not acted upon within 20 work days, they may appeal to the next higher level for review.

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Chapter 11
Procedures for Inspecting/Maintaining Bleachers

11-1. General. This chapter establishes the policy and procedures to be followed by organizations for inspection and maintenance of bleachers located on Fort Knox.

11-2. Responsibilities.

a. The ISO is responsible for the following:

(1) Installation proponent for bleacher inspection policy.

(2) Provide training and assistance to subordinate units.

b. Unit or activity safety officers will comply with the following:

(1) Conduct an inspection of all bleachers assigned to the unit or activity prior to use, using FK Form 5012-E (appendix B, Bleacher Inspection Checklist).

(2) Conduct an inspection of newly purchased bleachers.

11-3. Procedures.

a. All bleachers located on Fort Knox, including schools, gyms, and field houses and fixed or real property, will be inspected semi-annually by the safety officer of the unit or activity having jurisdiction and property accountability. Checklist will be used by inspectors.

b. Bleachers will be visually inspected to ensure they are level; there are no broken or missing cross braces, bolts or nuts; there are no rotted, broken, or splintered seat-boards or foot-boards; and all end caps are in place and riveted.

c. All loose bolts will be tightened.

d. Bleachers will be numbered with unit designation and bleacher number, i.e., Family Support Division bleachers - FSD1, FSD2, etc.

e. Bleachers identified as unsafe will be tagged and immediately placed "off limits" to all personnel until repairs are accomplished and bleachers are inspected and certified safe.

f. Installation of new bleachers will be accomplished by the users per the manufacturer's assembly instructions. Newly purchased bleachers will not be used until a safety inspection has been conducted.

g. Bleachers moved or relocated to another area will not be used until a safety inspection has been conducted by the using unit or activity.

Chapter 12
Protective Clothing and Equipment (PCE)

12-1. General.

a. Army regulation 385-10 authorizes the purchase and maintenance of PCE.

b. Supervisors will determine the requirements for PCE in the workplace through the job hazard analysis process. The ISO, in conjunction with PMS, will also assist in determining the need for PCE for any tasks or jobs not covered by other regulations. Requests will be submitted by memorandum to IMSE-KNX-SO. To ensure position descriptions are updated, required PCE will be reported to CPAC.

c. Areas where PCE is required will be appropriately marked.

12-2. Maintenance and Use.

a. The PCE will be maintained in a sanitary and reliable condition.

b. Commanders and directors will initiate disciplinary action under the UCMJ against military personnel failing to use PCE.

12-3. Policy. Supervisors will ensure PCE is provided when required and enforce its use. Contact the ISO for clarification of any questions on the use of PCE.

a. Eye and Face Protection.

(1) Protective eye and face equipment is required where there is a reasonable probability of injury that can be prevented by such equipment. The OSHA (29 CFR, 1910.133) requires eye protectors comply with the 1989 version of the Z87.1 Standard, and eye protection devices now in use may continue to be used.

(2) Visitors as well as workers will wear protective eyewear suitable to guard against the hazard.

(3) Protective prescription eyewear will be procured through Preventive Medicine.

(4) All eye protection must meet the requirements of the American National Standards Institute (Z87.1).

b. Foot Protection. Personnel exposed to potential foot hazards are required to wear safety footwear (ANSI Z-41). Guidance for type of footwear required for specific occupations can be obtained from the ISO.

c. Head Protection.

(1) Personnel exposed to injury from falling or flying objects will wear protective headgear. Examples of jobs requiring head protection include: working on construction and demolition sites, areas where objects are stored above head level, and around power lines.

(2) Areas where objects project from the ceiling or wall in an egress path shall be removed, guarded, or visibly marked with yellow caution paint to prevent head injury.

d. Hearing Protection.

(1) Personnel exposed to noise hazardous environments (85 decibel (dB) or greater) must wear hearing protection. Earplugs or muffs may be used to reduce noise to an acceptable level. Some instances may require that both be worn simultaneously. For specific information about the type of protection required, contact PMS or the Hearing Conservation Center (HCC). Personnel exposed to hazardous noise on a routine basis must receive annual audiometric testing at the HCC.

(2) Areas that are noise hazardous must be visibly marked with signs stating the area is noise hazardous.

e. Respiratory Protection. See chapter 17 of this regulation.

f. Personnel in a field environment will follow the DOD insect repellent system, which includes: treating uniforms with permethrin, applying DEET to exposed skin, rolling uniform sleeves down, tucking pants into boots, and tucking undershirt into pants.

12-4. Compliance. Supervisors will ensure personnel comply with the requirement to wear appropriate PCE. Failure to comply with this requirement may result in administrative actions as stipulated under UCMJ or Article 44, Safety, Section 3, of the Collective Bargaining Agreement.

Chapter 13
Severe Weather

13-1. General. Each activity will be prepared to deal effectively with hazards associated with severe weather such as heat, cold, snow, ice, lightning, tornadoes, etc. Each activity will prepare a written plan for dealing with these hazards and ensure all personnel are familiar with the plan. Appropriate training will be provided by supervisory personnel before each season.

13-2. Snow and Ice Conditions.

a. In the event of inclement or hazardous weather on Fort Knox, guidance in the Fort Knox Snow and Ice Plan will be followed.

b. Ice and snow will be removed from walkways, steps, landings, docks, and ramps; ice melt will be applied as necessary. Icicles, where they present a hazard to personnel, will be removed.

13-3. Tornadoes. The tornado safety rules contained in the Fort Knox Tornado Warning Plan will be observed for maximum protection against tornadoes. The Fort Knox Tornado Warning Plan, published by DPTMS, will be available in each work area.

13-4. Earthquakes. The earthquake safety rules contained in the Fort Knox Earthquake Plan will be observed for maximum protection against earthquakes. The Fort Knox Earthquake Plan, published by DPTMS, will be available in each work area.

13-5. Lightning. Commanders and supervisors at all levels will ensure that all personnel are aware of the safety precautions to take before and during lightning storms. Precautions will be implemented before the storm begins.

a. Troop Precautions. Weather information is available at range control and local radio stations. Weather briefings will be given when the potential for severe weather exists. In the event of an electrical storm, the following measures will be taken:

(1) The "30/30 rule" is one simple, generally accepted criterion to use for cessation or resumption of activities. The "30/30 rule" is to cease activity when lightning is 6 miles away or 30 seconds from observation of lightning to sound of thunder (hence the first "30"). Use a "flash to bang" (lightning to thunder) count of 5 seconds equals 1 mile (10=2 miles, 20=4 miles, and 30=6 miles). The second 30 in the "30/30 rule" means waiting 30 minutes after the last observation of lightning before resuming activities.

(2) Radios will not be used, and troops will not carry radios with antennas extended.

(3) Personnel will dismount from dozers, graders, and all other machinery and move approximately 100 yards away from equipment.

(4) Personnel will disperse if caught in a flat, open space or on a bare hilltop.

(5) Personnel will maintain a low profile if caught in an open, flat area. They will take shelter in dense woods, a grove of trees, or a deep ravine. Weapons and radios will be stacked away from personnel. Tents do not provide any protection from lightning.

(6) Individuals in an outside area should avoid hilltops, lone trees, flagpoles, fences, overhead wires, tents, small unprotected buildings in the open, and metallic objects such as artillery pieces and open top vehicles, to include canvas-topped vehicles. Personnel inside closed vehicles with steel tops generally are safe from lightning.

(7) When available, seek shelter in as large a building as possible. A well-grounded, metal frame building offers the most protection. When inside, stay away from electric wiring, fireplaces, stoves, showers, bathtubs, sinks, cold water pipes, and other possible conductors of electricity.

(8) If adequate cover is not available, personnel will assume a squatting position with hands over their ears. Do not lie flat or place hands on the ground.

(9) Units assigned to a range or training area should visually inspect any lightning protected bleacher shelters or open shelters for obvious defects in the lightning protection system, such as broken ground straps, damaged lightning rods, etc. (report deficiencies to range control safety).

b. Command Protective Measures. In the event of a warning of an impending electrical storm or lightning strikes observed within Fort Knox limits, the unit commander, officer, or NCO in charge of training will:

(1) Cease all outside training immediately.

(2) Move personnel into a building if possible.

(3) Ensure all weapons are cleared and stacked at least 50 yards away from personnel. If time is not available to stack weapons, weapons will be laid on the ground or on the firing line rifle rest within view of where troops will be located.

c. General Protective Measures. The following general rules apply during an electrical storm:

(1) Sporting events and other outdoor assembly must cease, and participants should find protective cover until the storm has passed. Do not fish, play golf, or participate in activities that involve the use of metallic instruments in open spaces. It is extremely hazardous to ride tractors, golf carts, motorcycles, and bicycles during lightning storms.

(2) Do not swim, operate boats, or participate in any aquatic activities during electrical storms.

(3) The use of telephones and field radios during electrical storms will be held to a minimum; lightning may be conducted through telephone lines.

(4) Playgrounds should immediately be evacuated to a safe area at the approach of or during an electrical storm.

(5) Do not use plug-in electrical appliances such as hair dryers, razors, and televisions. All automation equipment should be unplugged during electrical storms.

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Chapter 14
Water Safety

14-1. Responsibilities. Commanders are responsible for the following:

a. Prepare water safety programs implementing policies and procedures per TC 21-21 and TRADOC Reg 385-2.

b. Identify military non-swimmers and provide swimming and water survival training per TC 21-21.

c. Establish written SOPs for tactical water operations per TC 21-21 and TRADOC Reg 385-2.

d. Conduct a thorough composite risk assessment of training and forward the program of instruction (POI) to ISO for review and approval.

14-2. Recreational Swimming.

a. Swimming on Fort Knox is allowed only in supervised swimming pools.

b. Rules and regulations of the Fort Knox community pools will be complied with by all swimmers and sunbathers within that particular pool area.

c. Maximum bather load for on-post pools are as follows:

(1) Anderson Swimming Pool, Building No. 7956 – 471.

(2) Water Park, Building No. 5542 – 520.

(3) Gammon Field House, Building No. 850 – 149.

d. All commanders, directors, and chiefs of staff offices are responsible for the following:

(1) Ensure that water recreational activities they sponsor or control are supervised adequately.

(2) When possible, provide swimming instruction and water survival training for individuals who engage in water recreational activities.

(3) Publicize off-limit areas for water operations and recreational activities within their geographical areas.

(4) Inform personnel of the hazards of swimming alone, in cold water, after drinking, during hours of darkness, or in unauthorized areas.

(5) Provide water safety briefings before the start of the swimming season.

(6) Ensure prompt investigation and reporting of water-related accidents. Apply lessons learned.

14-3. Off-Limits. All bodies of water on Fort Knox are off-limits except for fishing. Activities such as swimming, wading, water skiing, ice-skating, and ice hockey are not authorized on installation ponds, lakes, streams, and rivers.

Chapter 15
Holiday Safety

15-1. General. Before each holiday period, commanders will ensure that all personnel receive a thorough safety briefing. The ISO may be contacted if assistance is needed in the preparation of pre-holiday safety briefings. The ISO has films, posters, Power Point presentations, and 5-minute safety talks that contain accident prevention information, which commanders may want to have addressed in their briefings. Special emphasis on safe driving is necessary before weekends and holidays. All personnel should be oriented on the danger of driving during these periods of increased traffic flow.

15-2. Safety Measures. An effective holiday accident prevention program includes the following safety measures:

a. Releasing troops from duty after reveille to permit travel during daylight and periods of least traffic congestion.

b. Encouraging and facilitating travel by commercial carrier especially on longer trips.

c. Conducting pre-departure checks of vehicles to ensure safe operating condition. This should be accomplished well in advance of the holiday to permit necessary corrective action. The FK Form 4650-E (POV Inspection Checklist, appendix C) or and equivalent unit form will be used to conduct this inspection.

d. Conversing with drivers before departure to determine if their physical condition appears adequate for the demands of holiday driving.

e. Pre-departure orientation of personnel concerning best routes, forecasts of weather and traffic conditions, traffic laws, and related data. The unit safety officer will arrange for compilation and presentation of this data.

f. Encouraging personnel to telephone the unit commander or first sergeant to request additional leave if delayed on return by legitimate or unforeseen circumstances. A leave extension may prevent accidents due to driver fatigue.

g. Conduct safety training sessions in advance of the holiday period.

15-3. Pre-holiday Training. Points to be stressed in training periods and pre-holiday safety publications include the following:

a. Reminders for traffic safety.

b. Observance of speed limits.

c. Dangers of driving while drinking, driving at night, and driving when fatigued.

d. Wearing of seat belts per AR 385-10 and this regulation.

e. Safe vehicle condition.

f. Seasonal weather hazards, to include heat/cold injuries.

g. Safety with firearms.

h. Holiday fire hazards.

i. Recreational hazards appropriate to the area and the holiday season (i.e., swimming, boating, fishing, and hunting).

j. Dangers of CO.

i. Dangers of binge drinking and drug use.

15-4. Long Distance Driving. All of the above holiday driving safety requirements, as well as the requirements in paragraph 4-9, this regulation, will be implemented prior to personnel departing on any long distance driving trip such as vacations, TDY travel, or PCS moves.

Chapter 16
Aviation Accident Prevention

16-1. General. Aviation safety is a major sub-element of the installation commander's safety program. All activities and operations, whether on the ground or in the air, have the element of risk.

16-2. Responsibilities.

a. The ISO is responsible for the following:

(1) Maintain safety oversight of airfield and unit safety programs.

(2) Provide safety training, education, and promotion.

(3) Ensure a safety specialist, GS-018, is assigned the responsibility of aviation safety to affect liaison between the ISO, airfield, and unit safety elements in all aspects of safety and composite risk management.

b. Installation Aviation Safety Officer (IASO) will comply with the following:

(1) Provide management oversight of airfield and unit aviation safety programs.

(2) Advise and assist commanders and safety officers in safety and composite risk management and assessment.

(3) Ensure the command safety program is integrated into all airfield activities.

(4) Assist assigned unit aviation safety officers (ASOs) in coordination with other staff agencies in the interest of safety.

(5) Respond to all aircraft and airfield emergencies and provide assistance in accident investigation and reporting.

(6) Guarantee a flow of information to ensure all personnel are afforded the opportunity to attend required safety training courses and meetings.

(7) Conduct an annual safety inspection of all airfield activities and operations.

(8) Monitor and risk assess all major work orders concerning safety for airfield activities.

(9) Assist in hazard identification and elimination and follow up to ensure recommended corrective action has been taken.

(10) Attend all pre-construction and pre-performance conferences concerning construction and contractor work on the airfield or facilities.

(11) Research and interpret safety and occupational health policies and procedures.

(12) Collect and analyze accident experience and causes; disseminate data for training purposes.

(13) Review plans for proposed demonstrations, exhibits, exercises, or contingencies for ensuring the safety and health of Army personnel and the public.

(14) Assist in the establishment of composite risk management, assessment of high-risk activities, and education of personnel on risk assessment.

(15) Maintain pertinent records and files to ensure continuity.

c. Aviation Division Chief, DPTMS/Aviation Unit Commanders are responsible for the following:

(1) Ensure there is an integrated accident prevention awareness program to include all functional areas.

(2) Appoint a qualified ASO to manage the airfield/unit aviation safety program.

(3) Ensure the IASO is included in the planning stage of demonstrations, exhibits, exercises, etc.

(4) Publish accident prevention directives and SOPs to provide instruction and enforcement of safety rules and principles for protection of personnel and equipment.

(5) Ensure an active Composite Risk Assessment/Composite Risk Management Program is established and copies of risk assessments are maintained on file by the ASO.

(6) Convene an airfield safety council quarterly. Minutes will be provided to the ISO.

d. Unit Safety Officers are responsible for the following:

(1) Plan and organize the unit safety program per established directives.

(2) Support the ISO in all areas of aviation safety and ensure unit requirements are met in areas like driver's education training programs, HAZCOM awareness, participation in safety campaigns, etc.

(3) Maintain a close working relationship with the IASO concerning airfield requirements, construction, industrial shop safety, aircraft maintenance, and refueling.

(4) On request provide the ISO copies of accident and incident investigations, inspections, safety meetings, and hazard reports concerning ground operations and maintenance.

(5) Coordinate with supervisors and ISO to ensure training needs of personnel are met.

(6) Coordinate all planned high-risk operations (i.e., hot refueling, FTXs) with the IASO.

16-3. Foreign Object Damage (FOD) Prevention.

a. Each unit will maintain a positive FOD Program per DA Pamphlet 385-90.

b. Rings/watches will not be worn while inspecting or maintaining aircraft. Tools will be inventoried and monitored to ensure they are accounted for at the end of each maintenance procedure.

c. All personnel visiting the airfield and personnel boarding (leaving or approaching) operating aircraft will be cautioned to remove and secure any "loose items" (hats, scarves, etc.,), which could be ingested by the engines.

d. Kites, model aircraft, model rockets, etc., will not be flown in close proximity to the Godman Army Airfield or where their presence could pose a danger to operating aircraft. For example, areas in Keyes Park present a proximate danger to aircraft concerning the above activities.

16-4. Main Post Landing Areas. Any requests for helicopter landings in the cantonment area shall be coordinated with the airfield manager, Godman Army Airfield.

16-5. Range Operations. All flights into the airspace over the Fort Knox training complex (R3704) require coordination with Range Branch, Training Division, DPTMS. Pilots will thoroughly familiarize themselves with the range and impact area status and the proposed route of flight before flights into the training complex. No aircraft will enter impact area airspace without approval from range operations. All aircraft operating in the training complex will monitor the Range Control FM frequency 38.900.

16-6. Refueling Operations. All aircraft refueling will be accomplished per FM 10-67-1.

16-7. Munitions. Upload/download of aircraft munitions on Godman Army Airfield is prohibited except as coordinated with the IASO or ISO.

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Chapter 17
Respiratory Protection Program (RPP)

17-1. General. This is a mandatory program. Personnel must comply with the RPP as outlined below:

a. Respirators are considered an acceptable method of protecting the health of DA personnel when the Safety Director (SD)/Industrial Hygienist (IH)/Occupational Health Nurse (OHN) determine the following conditions exist:

(1) Routine operations in which there are no feasible engineering controls and/or work practices that would adequately eliminate exposure to the hazard if used.

(2) Intermittent, non-routine operations (such as those not exceeding 1 hour/day or 1 day/week) when there are no feasible engineering controls and/or work practices available that would adequately control exposure to the hazard.

(3) Interim periods when engineering controls are being designed and installed.

(4) Emergencies.

(5) Federal regulation or operating license requires use of respirators.

b. Where economically feasible and the technology exists for eliminating or reducing the cause of an environmental respirator hazard, the following engineering control methods will be implemented:

(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.

c. Respiratory protection will be furnished at no cost to the employee and will be used as a condition of employment when required by the job. Employees hired after 12 December 1994 will be required to shave facial hair to wear the facial seal respirator or if it interferes with the valve functions.

17-2. Responsibilities.

a. The ISO is responsible for the following:

(1) Administration and management of the Fort Knox RPP.

(2) Appoint an individual within ISO as the Installation Respiratory Program Director (IRPD)/Installation Respirator Specialist (IRS).

(3) Establish and annually evaluate the Fort Knox RPP per AR 11-34.

(4) Conduct random worksite inspections to ensure all respirators are approved and used, stored, cleaned, maintained, and disposed of properly.

(5) Provide guidance and supervision in establishing SOPs for respirator use.

(6) Designate, in coordination with the IH, the type of respiratory protection equipment (RPE) to be purchased and used.

b. The IRPD/IRS are responsible for the following:

(1) Plan, program, and annually evaluate the RPP.

(2) Approve all SOPS prepared for respirator use before publication.

(3) Function as the central focal point for records of training/fit testing.

(4) Coordinate with PMS, MEDDAC, regarding the type of RPE to be purchased or used.

(5) Initiate prompt corrective action on any deficiencies detected in the RPP.

(6) Coordinate with the Chief, Fire Prevention and Protection Division, DES, to ensure a monthly inspection of emergency-use respirators and self-contained breathing apparatus (SCBA) is conducted.

(7) Train or ensure training of supervisors and workers meet requirements of AR 11-34, paragraph 3-5a(3), and 29 CFR, 1910.134.

(8) Perform required initial fit testing and ensure annual testing thereafter or as defined in AR 11-34, paragraph 3-5b.

(9) Issue respirator user cards (IMSE-KNX-SO Form 2659) after determining that all requirements for medical evaluations, training, and fit testing are met.

(10) Maintain necessary inventory levels of respirators, accessories, and spare parts as needed for instructional purposes.

c. Civilian Personnel Advisory Center will provide administrative support as required to all individuals responsible for ensuring/enforcing the RPP at Fort Knox. Examples of this support are:

(1) Ensuring CPAC addresses requirements for respirator use in Fort Knox job descriptions.

(2) Referring personnel being considered for employment in areas of operations requiring the use of RPE to the OH clinic for a pre-employment physical.

(3) Reassigning employees presently working in areas requiring RPE that are unable to wear the required protection as determined by the OH clinic and ISO.

d. Preventive Medicine Services (PMS), MEDDAC, will provide the following:

(1) Worksite evaluations to determine areas/locations where respiratory protection is required and provide copies of evaluations with recommendations to ISO. Ensure proper documentation is maintained to show breathing air systems have been tested for quality.

(2) Prescribe and disseminate instructions to worksite supervisors as to the type of approved respirator required for the task involved.

(3) Provide technical guidance to the administrator of the installation RPP.

(4) Maintain an inventory of hazardous areas in which respiratory protection is required. Provide a copy of updated listing to ISO by 31 January and 31 July yearly.

(5) Provide a pre-placement medical examination and periodic medical evaluation per established directives for individuals requiring respiratory protection before job assignment.

(6) The IH and OHN will use FK Form 3149-R-E, Respiratory Protection Request, to document their required action (see appendix E).

(7) Perform fitting for corrective lenses inside the full-face-piece respirator to ensure proper vision and good fit.

(8) Maintain Respirator Evaluation Questionnaire (found in 29 CFR 1910.134, Appendix C) for each employee in the RPP (mandatory).

e. The DPW will be responsible for the following:

(1) Install and maintain breathing air systems capable of providing Grade "D" breathing air where required, to include the use of only "oil-free" compressors designed for breathing air systems.

(2) Maintain compressed air breathing system alarms in an operable manner.

(3) Implement a schedule of routine maintenance for servicing and quality assurance evaluations of airline purification panels and changing filters and cartridges as necessary.

(4) Install airline couplings that are incompatible with outlets for other gas systems.

f. The Fire Department, DES is responsible for the following:

(1) Provide training for fire fighters on the proper cleaning and disinfecting methods to be used on masks after every use.

(2) Inspect emergency-use respirators and SCBA equipment monthly.

(3) Be available for emergency situations where an SCBA would be required to enter a contaminated atmosphere.

g. Supervisors will accomplish the following:

(1) Complete section 1 of FK Form 3149-R-E, Respiratory Protection Request, on all personnel that have been identified to be in the respiratory program.

(2) Develop an SOP on respirator use for their operation. Ensure SOP is approved by the IRS and PMS and employees are familiar with the SOP.

(3) Indicate job requirement to use respiratory equipment on the Standard Form (SF) 52 (Request for Personnel Action) when it is submitted to CPAC for recruitment to fill a position. Supervisors will ensure that selected personnel for vacancies requiring respiratory protection are advised of this requirement before acceptance of the position.

(4) Conduct and document monthly inspections of self-contained breathing apparatus and emergency escape equipment.

(5) Post areas where respiratory protection is required.

(6) Conduct routine inspections to ensure the proper RPE is used by employees, where required, and employees adhere to instructions relative to proper use and maintenance requirements. Consider user compliance in performance appraisals.

(7) Ensure employees receive periodic medical examinations by providing the OHS with an FK Form 3149-R-E, Respiratory Protection Request, on all individuals in the respiratory program.

(8) Provide facilities for cleaning, maintenance, and proper storage of equipment.

(9) Ensure workers are fit tested by respirator specialists before work assignment.

(10) Ensure users are supplied and trained in the use and care of appropriate RPE as specified by ISO/PMS and maintenance of this equipment meets requirements outlined in this document.

(11) Ensure individual to be fit tested on tight fitting respirators is clean shaven per AR 11-9, Appendix A, paragraph 9 which states, "The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface, such as stubble beard growth, beard, mustache, or sideburns which cross the respirator sealing surface."

(12) Ensure training for personnel on RPE is documented and kept current by the respirator point of contact.

(13) Ensure respirators are maintained per manufacturer instructions. Respirators used by more than one person shall be thoroughly cleaned and disinfected after each use.

(14) Do not permit employees to wear contact lenses when wearing full face-piece respirators, helmets, hoods, or suits.

(15) Ensure procedures for rescue and standby personnel in Immediately Dangerous to Life or Health (IDLH) situations are incorporated into the unit SOP.

h. Unit/Activity Respirator Specialist are responsible for the following:

(1) Coordinate with supervisors and identify to ISO all personnel, by section, who are required to use respirators in their job.

(2) Coordinate with supervisors and schedule personnel for initial training/fit test and periodic fit test. Maintain training records and suspense for training.

(3) Update respirator users' records after determining that all requirements for medical evaluation, training, and fit testing are met.

(4) Attend training sessions and meetings scheduled by ISO.

i. Respiratory equipment users will comply with the following:

(1) Report to the OHS when scheduled for periodic medical evaluations.

(2) Use respirators according to the manufacturer's instructions, training provided, and work area SOP.

(3) Inspect the respirator before each use.

(a) The inspection will include a visual parts check of headbands, mask, and valves for deterioration. Ensure the respirator has no holes, cracks, leaks, or other obvious defects.

(b) Perform positive and negative pressure test to ensure respirator is performing properly.

(4) Notify immediate supervisor if it is suspected that RPE is needed or that the respirator is defective.

(5) Adhere to instructions governing the proper use, maintenance, and storage practices of the respirator.

(6) Store respirators under conditions that will protect them against dust, sunlight, deformation, and the concentration of contaminants and environmental conditions.

17-3. Procedures.

a. Selection of RPE.

(1) All respirators procured for use will be approved respirators (tested and listed as satisfactory jointly by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration). Any modification that is not authorized by these agencies voids the approval of a respirator. Component replacement, adjustments, or repair will follow the manufacturer's recommendations only. A respirator is approved as a whole unit with specific components.

(2) The correct respirator for each job will be specified by PMS based on environmental evaluations and requirements contained in OSHA 29 CFR 1910, Subpart Z. Once PMS, MEDDAC, has identified specific jobs which require respiratory PCE, the supervisor will complete Section I of FK Form 3149-R-E on each individual working in the identified positions. Section II of the form will be completed by the Industrial Hygiene Section and forwarded to the Civilian Health clinic to ensure physicals/pulmonary functions testing are completed on workers in the identified positions. After assessments and physicals are completed, the FK Form 3149-R-E is forwarded to the IRS, ISO.

(3) Industrial respirators (negative pressure types) will not be used in confined spaces or where concentrations of contaminants are IDLH or in any atmosphere containing less than 19.5 percent oxygen. For entry into confined space or IDLH atmospheres, only self-contained breathing apparatus or supplied airline respirators will be used, and then only where specific controls and requirements are applied where experts have been consulted and written procedures developed to ensure safe operation. Regulations require anyone planning any confined space entry to contact the ISO, 624-4920.

(4) In the event an employee desires not to wear a facial respirator, the unit/activity will negotiate with the union possible optional respiratory equipment. This applies only for employees in which respirator use is not a condition of employment.

(5) The respirator does not provide protection to exposed areas of the body against vapors, gases, and airborne particulate matter that irritates the skin or that may be absorbed by the body through penetration of the skin. The use of specialized hand and/or body coverings may be required for protection.

b. Use of RPE.

(1) A respirator will be assigned to an employee for their exclusive use except when provided for emergency use only.

(2) Supervisors will ensure that permanently assigned respirators are marked indicating who it is assigned to. The mark will not affect the respirator performance in any way. The issue date will be recorded on inventory maintained by the supervisor.

c. Initial and annual respiratory protection training and respiratory fit testing will be conducted by ISO and/or unit respirator specialist.

d. Contact lenses will not be worn with full face-piece respirators, helmets, hoods, or suits.

e. Each area and operation requiring respirators will be marked to inform personnel of the work hazards or health risks involved and the type of respirator required.

f. Testing for fit.

(1) Fit testing will be conducted annually. In addition, fit testing will be repeated whenever physical changes could affect respirator fit, i.e., facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight. Any individual with facial hair (stubble beard growth, beard, mustache, or sideburns), which protrudes into the sealing surface, as determined by the IRS, will be refused a fit test. Fitting will be based only on a clean shaven face.

(2) Before entering an area containing a hazardous atmosphere, the respirator wearer should test the tightness of the seal by performing one of the tests below:

(a) Positive Pressure Fit Check.

•Place thumb through large opening in exhalation valve guard to close the exhalation valve.

•Exhale.

•If the mask bulges slightly, and there is no evidence of air leaks, a tight fit has been obtained.

•If an air leak is detected, reposition the mask and/or tighten straps and repeat the test.

(b) Negative Pressure Fit Check.

- Place palms of hands over opening on filters and inhale for 5-10 seconds.

- If mask collapses, you have a good seal.

- If an air leak is detected, reposition the mask and/or adjust straps. Repeat the test.

g. Inspection, Maintenance, and Care of respirators.

(1) When a respirator is issued to an individual, that person is responsible for the primary maintenance and care of that respirator. Where respirators are kept ready for emergencies by a shop or operating activity, the work area supervisor is responsible for establishing the respirator maintenance and cleaning program. This program will be adjusted for the number of types of respirators in use, working conditions, and hazards involved and will include the basic services of inspection for defects, cleaning and disinfecting, repair, and storage. Equipment will be properly maintained to retain its original effectiveness.

(2) No attempts will be made to replace components or to make adjustments or repairs to the mask beyond the manufacturer's recommendations. If the mask is unserviceable dispose of properly.

(3) All respirators will be inspected routinely before and after each use and during cleaning. A respirator that is not routinely used but kept ready for emergency use will be inspected after each use and at least monthly to ensure that it is in satisfactory working condition using the following steps:

(a) Examine the face piece for excessive dirt, cracks, tears, holes, or distortion from improper storage or inflexibility.

(b) Examine the head straps or head harness for breaks, loss of elasticity, and broken or malfunctioning buckles and attachments.

(c) After removing the cover, examine the exhalation valve for the following:

- Foreign material, such as detergent residue, dust particles, or human hair under the valve seat.

- Cracks, tears, distortion in the valve material, or improper insertion of the valve body in the face piece.

- Cracks, breaks, or chips in the valve body, particularly in the sealing surface.

• Missing or defective valve cover or improper installation of the valve body.

(4) Examine the air-purifying elements for the below:

(a) Incorrect cartridge, canister, or filter for the hazards.

(b) Incorrect installation, loose connections, missing or worn gaskets, or cross thread in holder.

(c) Expired shelf-life date on cartridge or canister.

(d) Cracks or dents in outside case of filter, cartridge, or canister.

(e) Evidence or prior use of sorbent cartridge or canister indicated by absence of sealing material, tape, foil, etc., over inlet.

h. A monthly inspection will be conducted on all self-contained breathing apparatus type respirators. Air and oxygen cylinders will be fully charged according to the manufacturer's instructions, and it will be determined that the regulator and warning devices function properly.

i. Respirators issued to specific individuals will be cleaned and disinfected as frequently as necessary to ensure that skin-penetrating and dermatitis-causing contaminants are removed from respirator surfaces. Respirators maintained for emergency use or used by more than one person will be cleaned and disinfected after each use.

j. Cleaning and Disinfecting. The following approved procedures will be used for cleaning and disinfecting respirators:

(a) Remove any filters, cartridges, or canisters. NOTE: Do not submerge in cleaning or disinfecting solution.

(b) Wash the face piece and breathing tube in a cleaning solution of 1 tablespoon dishwashing soap to 1 gallon of warm water. To disinfect the face piece and breathing tube, use 2 tablespoons of household bleach to 1 gallon of warm water.

(c) Rinse completely in clean, warm water.

(d) Air dry in a clean/non-contaminated atmosphere.

(e) Clean other respirator parts as recommended by the manufacturer.

(f) Insert new filters, cartridges, or canisters as specified by the manufacturer, and ensure the seal is tight. Filter assemblies will be replaced if the wearer notices any odor, difficulty in breathing, or ill effects from fumes.

(g) After inspection and cleaning, respirators will be stored to protect them against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use will be stored in compartments built for that purpose. The compartments must be clearly marked to indicate their content and must be quickly accessible at all times. Routinely used respirators may be stored in plastic bags, but respirators will not be stored in places such as lockers or toolboxes unless they are in containers or cartons. Respirators will be placed or stored so the face piece and exhalation valve will rest in a normal position in order not to impair the respirator function by affecting its physical configuration.

Chapter 18
Safety Awards Program

18-1. General. Commanders at all levels, directors, and chiefs of special staff sections are responsible for establishing procedures for implementing the Safety Awards Program. Various individual and unit awards are available and identified in Chapter 8, AR 385-10 and Chapter 6, DA Pam 385-10. All nominations will be endorsed through the chain of command to include the ISO.

18-2. Department of the Army Level Awards.

a. Army Headquarters Safety Award. Awarded to Army Headquarters that demonstrate significant improvements, sustained excellence, and/or leadership in accident prevention programs and performance. Time frame is based on a fiscal year.

b. Army Exceptional Organization Safety Award. Units at division, brigade, battalion, and garrison (or equivalent) may be nominated for this award. This is a fiscal year award.

c. Army Individual Award for Excellence in Safety. Recipients may be Soldiers, DA civilians, and Army contract employees. Nominations will be received by HQS DA, NLT 15 November of each year.

d. United States Army Safety Guardian Award (DA Form 5777). Soldiers, DA civilians, and Army contract employees may receive this award when they have reacted to an emergency event or imminently dangerous situation through extraordinary actions or skills.

e. Sergeant Major of the Army (SMA) Superior Soldier Safety Award. The SMA will present this award to Soldiers who have demonstrated "pockets of excellence" or "best practices" in safeguarding Army operations or personnel.

f. Army Aviation Broken Wing Award (DA Form 5778). Individuals that perform authorized aircrew member flight duties while on a DOD mission are eligible to receive this award.

g. Director of Army Safety Composite risk management Award. Army units or individuals that demonstrate exemplary leadership or make significant contribution to Army readiness through CRM are eligible for this award.

18-3. Army Headquarters and Organization-level Awards.

a. Army Accident Prevention Award of Accomplishment (DA Form 5775). Eligible units include company size units, battalions, or equivalent; brigades or equivalent; and division, installation, or activities. An organization must complete 12 consecutive months or complete a

major training exercise or complete an actual deployment of greater than 120 days without experiencing a class A, B, or C accident. Awards can be repeated for subsequent years of eligibility (2d year, 3d year, and so on).

b. United States Army Aircrew Member Safety Award. Soldier, DA civilian, or Army contract employee who completes at least 500 flight hours as an aircrew member in an US Army aircraft without have a contributing role in a human-factor-related class A, B, or C aviation accident may receive this award.

18-4. TRADOC Level Awards.

a. Commander's Safety Award. This award recognizes organizations and other TRADOC activities for meeting accident prevention goals and making significant contributions to the Army Safety Program. Nomination packets will be received at TRADOC NLT 15 December of each year.

b. Safety Aviation Award. The Hutton Award is presented to units determined to have demonstrated outstanding professionalism and contributed to the advancement of flight safety in Army aviation. Nominations will be received by Fort Rucker NLT 15 December of each year.

c. Certificate of Achievement in Safety. This award recognizes an individual or organization, at battalion/brigade size equivalent units, to include Soldiers, DA civilians, or contractors. The Certificate of Achievement may be awarded at any time and is not restricted to a specific time period.

d. Command Sergeants Major Safety Achievement Award. This award recognizes the CSM safety action council that contributed the most to the readiness of our Army and to the welfare of our Soldiers. Nomination packets will be received at TRADOC NLT 31 December of each year.

18-5. Fort Knox Safety Awards.

a. Fort Knox Commanding General's Annual Unit Safety Award. This award will recognize major units and activities that most successfully perform the safety mission. A plaque will be awarded for superior safety performance. Unit is selected through evaluations during management assistance visits and unit accident experience (previous fiscal year's experience as baseline). Units must show improvement to receive an award consecutively.

b. Certificate of Achievement in Safety (DA Form 1119-1). Leaders at all levels will recognize safe performance displayed by units/individuals within their organization. Leaders may use the DA Form 1119-1 or they can design and use locally produced certificates or trophies in place of the DA Form 1119-1.

c. Individual Accident Prevention Awards.

(1) Fort Knox Commanding General's Annual Unit Safety Officer and Noncommissioned Officer (NCO) Award. A safety officer and NCO will be selected annually for recognition of their excellence in performance of safety duties (Safety Officer can be a DA civilian). Brigade commander, directors, and chiefs of staff offices may submit one nomination, in each category, annually to the Installation Safety Office by 30 September. Personnel nominated must have been assigned as an additional duty safety officer or NCO for at least 6 months. Submissions must address the safety officer's and NCO's involvement in the following:

(a) A unit/activity safety inspection program to eliminate unsafe conditions and unsafe acts.

(b) A safety education and promotion program centered on identified problems.

(c) Unit/activity safety council meetings.

(d) Investigation and reporting of accidents.

(e) Analysis of unit/activity accident experience to determine problems and implementation of countermeasures.

(2) Awards authorized by AR 672-20, Incentive Awards.

(3) Driver and Mechanic Badge for military and civilian personnel as prescribed in AR 600-8-22, Military Awards.

18-6. Documentation. All safety awards will be documented in the individual's personnel file. Safe driving awards will be documented on the individual's DA Form 348.

18-7. Award Presentation. Awards will be presented to recipients at suitable ceremonies to emphasize management's concern to reduce vehicle and equipment damage and personal injury losses. Local publicity, through appropriate information media, will accompany the presentation of safety awards.

18-8. Special Awards. Commanders, directors, and chiefs are encouraged to establish special safety awards, locally procured or devised, for their activities and units per Chapter 8, AR 385-10 and Chapter 6, DA Pam 385-10.

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Chapter 19
Branch Proponency

19-1. General. The Armor Branch Proponency Safety Program implements TRADOC policies and responsibilities for branch safety proponency and focuses on integrating safety into all TRADOC mission functions, to include, doctrine, organizations, training, materiel, leadership and education, personnel, and facilities.

19-2. Objectives. The objectives of the Armor Branch Proponency Safety Program are to integrate safety into each phase of force developments, training developments, and training processes. The program identifies hazards and risks, up front, and is designed to eliminate or control them through engineering or training. It includes the tracking of residual hazards and accident data and incorporation of resulting lessons learned into future development efforts.

19-3. Responsibilities. For the purpose of this regulation, the responsibilities for the mission functions are split between the Commandant, USAARMS, and the Assistant Commandant, USAARMS. Organization, materiel, personnel, and facilities are the responsibility of the Commandant, USAARMS. Doctrine, training, leadership, and education are the responsibility of the Assistant Commandant, USAARMS.

a. Commandant, USAARMS will accomplish the following:

(1) Ensures implementation of appropriate provisions of AR 385-10 as they relate to the USAARMC mission functions of organization, materiel, personnel, and facilities.

(2) Ensures the Director, DTDCD-E keeps the ISO informed of safety issues associated with the organizational and materiel developments products and processes.

b. Assistant Commandant, USAARMS provides the following:

(1) Ensures implementation of appropriate provisions of AR 385-10 as they relate to the USAARMS mission functions of doctrine, training, leadership, and education.

(2) Responsible for embedding safety in the training development process.

(3) Ensures training developers coordinate doctrine, training, leadership, and education development safety issues with the ISO.

(4) Assigns responsibilities and establishes effective procedures and policies to integrate safety into doctrine, training, and leader development by incorporating safety requirements in the total training developments process.

(5) Ensures stand alone safety instruction is conducted in leader development and other selected USAARMS courses.

(6) Completes and attaches a composite risk assessment sheet, FK Form 5006E, to each lesson plan IAW TRADOC Regulation 350-70.

c. Armor Branch Safety Manager will comply with the following:

(1) Serves as the control POC for Armor Branch safety matters and refers actions to the appropriate agency for action and resolution.

(2) Provides staff oversight for the integration of safety in combat developments, training developments, and training missions.

(3) Responsible for coordination of the Armor Branch Proponency Safety Program.

(4) Serves as technical advisor to the commandant and the USAARMS staff for composite risk management and leader development safety awareness training.

(5) Establishes goals, plans, and objectives for the program in conjunction with appropriate USAARMC and USAARMS staff agencies.

(6) Provides the appropriate special staffing for the operation of the Armor Branch Proponency Safety Program.

(a) Armor Branch Safety Specialist. Appropriate safety personnel (SOH Specialist – GS-018) from the ISO will be tasked with assisting USAARMS staff in evaluating safety in training.

(b) Armor System Safety Engineer. Appropriate safety personnel (System Safety Engineer – GS-803) will be assigned with duty station in the DTDCD-E. These personnel will be responsible to the Director, DTDCD-E, for the force developer portion of the Materiel Acquisition System Safety Program relating to Armor proponent items.

(7) Reviews and validates composite risk assessment worksheets for lesson plans developed by the school. As a minimum, reviews all extremely high, high, and moderate level risk courses and training.

(8) Maintains coordination with the USAARMS and the branch liaison office in the USASC.

(9) Tracks action responsibility to resolve branch safety issues and safety deficiencies.

(10) Assists and provides safety information on risk management; branch-unique hazard recognition; and accident prevention to evaluators, school instructors, cadre, and training developers.

(11) Coordinates branch safety issues; accident experience data; and lessons learned with materiel developers, USACRC, TRADOC, and appropriate school elements for their input and use as necessary.

(12) Assists in dissemination of branch safety essential elements of information, e.g., accident trends, specific MOS safety issues, and composite risk management.

(13) Assists USAARMS in implementing the TRADOC resident HAZCOM training program to students as required.

d. Armor Branch Safety Specialist is responsible for the following:

(1) Monitors the integration of composite risk management into operations, training, and literature by conducting evaluations and reviewing school documents.

(2) Obtains updated information and statistics on accident trends from the Armor System Safety Engineer and provides to the appropriate USAARMS staff for use in lesson plans.

(3) Evaluates professional leader development programs for adequacy of safety curriculum.

(4) Coordinates with specific subject matter experts and provides safety standards regarding branch training.

(5) Evaluates learning objectives for safety in the Training Support Packages (TSPs) of school sub-courses.

(6) Reviews safety and health considerations in USAARMS products and recommends approval and/or changes to the commandant.

(7) Evaluates selected course critiques and develops countermeasures to address criticisms of safety training.

(8) Assists USAARMS staff in tracking hazards associated with proponent training and materiel systems.

e. Armor System Safety Engineer will provide the following:

(1) Serves as the technical expert on system safety engineering and management for the Director, DTDCD-E.

(2) Implements the provisions of AR 385-10 relating to the combat developer for all armor proponent materiel systems.

f. The DTDCD-E will accomplish the following:

(1) Serves as the USAARMC proponent for AR 385-10 and ensures implementation of all force developer system safety engineering and management requirements relating to the USAARMC mission functions of organization and materiel as prescribed therein.

(2) Through his/her designated representative, provides guidance, tasking priorities, and supervision to the Armor System Safety Engineer.

(3) Advises ISO of actions and issues relating to the system safety mission.

(4) Provides appropriate force developer system safety feeder data, update information, and documentation to the ISO.

g. Commanders of USAARMS training activities are responsible for the following:

(1) Integrate safety standards/requirements, precautions, countermeasures, and lessons learned into courses of instruction, lesson plans, POIs, and appropriate literature.

(2) Ensure that training developers and instructors receive information on MOS-specific hazards and training on the composite risk management process.

(3) Perform safety risk assessments during the systems approach to training design, development, and implementation phases. Assign lesson plan composite risk assessment levels using FK Form 5006E (Lesson Plan Risk Assessment) and coordinate high and extremely high-risk ratings with the ISO. Maintain a copy of the assessment form in the class visitor's folder with the original in the class vault file. Delete all extremely high and high-risk training tasks that are nonessential for attainment of the training objective.

(4) Ensure lesson outlines contain clear guidance for both instructors and students regarding the conduct of potentially hazardous training.

(5) Train to standard by approved curricula and ensure that adequate instructors and safety observers, consistent with risk, are present at training sites.

(6) Include a stand-alone block of safety instructions in leader development courses. Instruction should include an overview of the Army Safety Program, composite risk management, and MOS-specific safety concerns.

(7) Conduct an evaluation of each course annually to ensure that task-specific safety precautions are incorporated and addressed. Use the composite risk management process to identify those phases or tasks, which have low, moderate, high, or extremely high risk and implement appropriate measures to control risk.

(8) Integrate SOH requirements into training guidelines, techniques, curricula, and new equipment training.

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Chapter 20
Special Emphasis Areas

20-1. General. Areas of emphasis in units and activities will vary depending on the operation, degree of hazard, and operational difficulty. Such potential loss areas should be identified so effective controls can be instituted.

20-2. Motor Pool Operations and Maintenance Safety.

a. The SOPs will be prepared, published, and posted in the work area covering each potentially hazardous operation such as, but not limited to the below:

(1) Painting.

(2) Using grease racks and pits.

(3) Tire changing and repair.

(4) Battery shops.

(5) Welding.

(6) Servicing brake linings and clutch pads.

(7) Maintenance shops.

(8) Respiratory protection.

(9) Hazard Communication Program (HCP).

(10) Radioactive materials.

b. Traffic flow in and around buildings will be carefully planned with emphasis on eliminating points of traffic conflict, blind corners, close clearances, etc. Ground guides will be used to direct movement of tracked vehicles and tactical wheeled vehicles. Parking and/or storage of vehicles will be avoided on sloping ground, inclines, and ramps when possible. Chock blocks will be used when vehicles are parked on an incline and when working on or under a vehicle.

c. Grease pits (not in use) will be protected by substantial barriers or pit covers.

d. Lights and electrically operated equipment used in pits or within 18 inches of the floor of any indoor vehicle servicing area will be explosion proof.

e. Containers or safety cans used to hold oil and grease-soaked rags will be painted red with a yellow band around the can or with the name of the contents conspicuously stenciled or painted on the can in yellow. Dispose of contents per environmental requirements.

f. Gasoline will not be used to clean parts, floors, pits, or other materials. Solvent tanks will be equipped with a self-closing lids or fusible link lids and kept closed when tank is not in use. Solvent tanks will not be used unless an approved eyewash facility is available.

g. Air used for cleaning purposes will not exceed 30 pounds per square inch when nozzle is dead ended. Effective chip guarding (a cone of air which directs debris forward) will be provided, and eye protection will be used.

h. Vehicle motors will be operated in a confined area only when necessary repairs or adjustments are being made. Adequate ventilation will be provided by use of exhaust systems, exhaust fans, or a tailpipe exhaust extension system, which exhausts to the outside.

i. Vehicles jacked up or suspended by a chain hoist will be supported by jack stands. Personnel will not get under vehicles supported by jacks or chain hoists. Maintenance will not be performed on vehicles or equipment, such as power packs, while suspended from a chain hoist.

j. Cranes and hoists will be operated only by trained and qualified personnel.

k. When inflating tires with split rims, the following safeguards will be employed:

(1) Inflation safety cages will be used.

(2) A lock-on air chuck with an extension air hose at least 10 feet long, with pressure gage located in the air hose at least 10 feet from the cage will be used.

(3) Every individual involved in tire inflation operations will be trained in proper performance of the operation.

(4) All cages for airing multi-piece and single-rim wheels will receive a certification inspection from the DOL services contractor.

l. Servicing brake linings and clutch pads may pose a serious hazard from airborne asbestos fibers. These operations will be evaluated by an IH, and recommended protective measures will be followed. Respirators will be used any time brake maintenance is being conducted.

m. All lifting devices, e.g., hoists, cranes, jacks, and forklifts will be inspected, marked, load-tested, and maintained per requirements of TB 43-0142, ANSI Standards, and 29 CFR, 1910.66. Vehicle support stands (jack stands) will be inspected IAW TB 43-0156. The DD Form 314 (Preventive Maintenance Schedule and Record) or an equivalent log of inspections must be maintained.

n. Painting operations are prohibited unless proper ventilation is provided. Contact Preventive Medicine or Industrial Hygiene for assistance in evaluating ventilation.

20-3. Precautions against CO Poisoning. Carbon monoxide, produced by incomplete combustion of fuels, is a serious hazard in areas where fuel-burning devices are used with insufficient ventilation. To prevent injuries from CO, commanders and activity chiefs, as applicable, are responsible for the following:

a. Request surveys be performed by PMS to determine if a hazard from CO exists within their areas of responsibility. Surveys should be made before the cold weather season in shops, warehouses, and other closed areas where combustible fuel is used. The interior of Army vehicles, cranes, and construction equipment using a combustible fuel will be checked for defective exhaust systems.

b. Ensure personnel are oriented concerning the hazards of CO before the cold weather season.

c. Take precautions to safeguard personnel against CO gas poisoning from main and auxiliary engine exhaust and fuel burning personnel heaters while operating, servicing, or transporting in motor vehicles.

d. Check exhaust systems for leaks monthly, and allow engines to idle for an extended time without adequate ventilation.

e. Ensure vehicle drivers do not park any military or civilian vehicle with engines running merely to keep the vehicle or driver warm. If the engine is required to operate the radio or for other tactical reasons, vehicles will be ventilated, and drivers will be required to dismount periodically.

20-4. Electrical Hazards.

a. Only trained and qualified personnel will perform work on electrically-powered equipment and facility electrical systems. Defective electrical wiring, downed wires, and other electrical hazards will be reported to DPW for correction. Circuits will be de-energized per lock-out-tag-out in Chapter 23, this regulation, before repairs are begun.

b. Flagpoles, radio masts, metallic ladders, and similar objects will not be erected or dismantled where the possibility of contact with energized circuits exists. Masts, towers, and antennas will be installed at least twice the height of the structure from power lines.

20-5. Machine Safety. Rings and other jewelry, loose clothing, and unbound hair will not be worn when working around moving machinery, during vehicle maintenance, or during other hazardous industrial operations. All machine guarding will be properly installed, serviceable, and not modified in any manner.

20-6. Slipping/Tripping Hazards. All aisles, passageways, stairs, sidewalks, and other walking surfaces will be free of slipping or tripping hazards.

20-7. Non-standard Training.

a. Units planning to conduct non-standard training will submit detailed plans to the ISO for review and comment before implementing the training.

b. The plans submitted for review will include, as a minimum, a description of the training to be conducted, site location, references used to develop the training plan, and a composite risk assessment of the training.

20-8. Bulletin Boards.

a. The following safety items will be posted in the "Permanent" section of military and civilian bulletin boards:

(1) Commander's Safety Policy memorandum.

(2) Department of Defense Occupational Safety and Health Protection Program Poster (DD Form 2272).

b. The following items will be posted in the "Current" section of military bulletin boards:

(1) Drinking and driving memorandums (post for a period of 30 days from date of issue).

(2) Fatality memorandums (post for a period of 30 days from date of issue).

c. In addition to accident material being posted, safety posters will be strategically placed throughout the area. Posters are available USACRC and the ISO.

20-9. Color Coding. The marking of hazards and painting of safety equipment will be IAW OSHA regulations.

20-10. Civilian Visitors Operating Military Equipment.

a. There is a DA moratorium on civilian visitors operating military vessels, aircraft, vehicles, and crew-served weapon systems when the operation could cause, or reasonably be perceived as causing, an increased safety risk. This moratorium is effective regardless of how closely civilian visitors are supervised.

b. In addition to the DA moratorium, civilian visitors to Fort Knox are precluded from the following:

(1) Driving military track or wheel vehicles and operating mechanical or ground support equipment such as winches, turrets, and ammunition doors.

(2) Setting up; throwing; or firing military demolitions, pyrotechnics, grenades, rockets, and lasers.

(3) Negotiating or using the Confidence/Obstacle Course, Teamwork Development Course, Zussman MOUT facility, 194th AB MOUT site (7000 Block), or the rappel tower.

c. Civilian operation of other types of equipment, including small arms, must be done safely under the direct supervision of a DOD civilian or military personnel per prescribed policies and regulations; military commanders/directors at the LTC level can approve these events. Approval must be in writing and based upon a thorough composite risk assessment and detailed written description of activities to be conducted.

d. In instances where established policies or regulations do not cover the situation, approval authority is with the first general officer in the chain of command. Requests for approval will be submitted through the ISO for review.

e. Civilian contractors and DOD civilians who must operate military equipment as part of their duties are not considered civilian visitors for the purpose of this memorandum and therefore not affected by this policy. Contracting Officer Representatives and supervisors of civilian contractors will enforce compliance with this directive.

f. This moratorium is not intended to restrict civilian visitors form observing Army training, demonstrations, static displays, and like activities. The intent is to ensure civilian visitors are protected from the hazards associated with high-risk operations.

20-11. Off-limits Areas. The following locations on Fort Knox are off-limits to unauthorized personnel:

a. All bodies of water to include lakes, ponds, streams, and rivers for any purpose other than fishing.

b. All "Challenge Courses," i.e., Conditioning and Confidence Obstacle Courses, Forrest Hills Challenge Course, Thunderbolt Tower and Teamwork Development Course, Rappel Tower, Slide For Life, and Bayonet Assault Course.

c. Rock quarries and cliffs for activities such as rappelling or rock climbing.

d. Railroad tracks, bridges, trestles or other railroad property. Crossing at road intersections are permitted.

20-12. Inflatable Recreational Equipment. Procurement, installation, and use of inflatable recreational devices will be approved by the ISO.

a. When approved, a responsible leader or supervisor will perform a composite risk assessment, DA Form 7566 (Composite risk management worksheet), and an initial site survey NLT 30 days prior to the event date. There will be a detailed SOP addressing the entire operation. Submit the site survey to the ISO which serves as the formal request to use the inflatable recreational equipment.

b. Safety instructions and warning rules from the manufacturer will be permanently attached to the inflatable recreational equipment. Participants will be instructed to follow all posted safety instructions and warnings.

c. There will be a 10-foot "no walking" perimeter around the inflatable recreational equipment.

d. Crash mats are required at exit and entrances along with exposed sides of all inflatable recreational equipment. These mats can be purchased from the manufacturer or a vendor (Tiffin, Marathon, Power Plastics, etc.). Mats will be secured to prevent separation from the inflatable recreational equipment during use. The inflatable recreational equipment manufacturer's recommended mats will be used as a minimum with no exception. A spotter will be stationed at the end of the inflatable recreational equipment, no exceptions! The spotter will ensure the participant stays on the inflatable recreational equipment and/or crash mat.

e. The following are some safety considerations for inflatable recreational equipment users to be included on a sandwich display board depending on the type of inflatable recreational equipment:

(1) Jumping or flipping is prohibited on the inflatable.

(2) No rough play.

(3) Competition between participants is prohibited. Only one individual is allowed on the inflatable recreational equipment at a time.

(4) No shoes allowed on the inflatable recreational equipment.

(5) No sharp objects, large or unusual belt buckles, jewelry (large rings, bracelets, facial, or unusual body piercing, etc.,), which may damage the vinyl fabric or cause injury to the players.

(6) Participants may not wear eyeglasses.

(7) No smoking, alcohol, food, or beverages allowed within 10 feet of the inflatable recreational equipment.

(8) Those who fail to adhere to the safety guidelines will be immediately removed from the inflatable recreational equipment.

f. Maintenance. When manufacturer's procedures are in conflict with this regulation, the manufacturer's procedures will be followed or permission in writing kept on file from the company to show an exception to manufacturer's recommended procedures.

(1) Cleaning the surfaces of the unit will be accomplished after each event and before deflation.

(2) The unit is to be spot cleaned using mild cleaner. Never soak the inflatable with cleaner or water, and do not pack the inflatable when wet. Moisture can cause mildew that will void the warranty and cause a breakdown in the performance of the vinyl fabric and stitching.

(3) The slide surface of the unit must be maintained every hour, or as needed, by spraying with Pledge, Armor All interior protectant, or Turtle Wax 2001 interior protectant to keep it slippery. These products will not be used on any other surface of the unit.

(4) Temporary patching of a minor (less than 1 inch in length) rip, tear, or puncture with duct tape will be accomplished immediately upon discovery.

(5) If damage occurs, the unit will be shut down immediately and will not be used until repaired.

20-13. Project Test and Evaluation.

a. Unmanned ground vehicle (UGV) and unmanned aerial vehicles (UAV) will be modified so they cannot be operated faster than a predetermined safe speed considering the vehicle characteristics, test course conditions, personnel exposure, and the nature of the test being conducted.

b. The UGV/UAV will include an independently controlled emergency stopping device with the technology to stop the vehicle and remote control unit.

c. Software modifications and upgrades will be coordinated with the test director, software test team, and the safety officer.

d. Industrial/Maintenance.

(1) Good housekeeping of the test course and ranges will be maintained at all times.

(2) Maintenance personnel are required to perform PMCS IAW UGV/UAV or equipment technical manuals, trip ticket, and/or vendor instructions. They will assure that no maintenance will be performed on the UGV/UAV until all battery or electrical power is disconnected and the power supply filter capacitors are discharged.

(3) Operators will not wear rings, metallic watchbands, or other metallic objects while manually operating, maintaining a UGV/UAV.

(4) Test participants will receive training on the operation of the UGV/UAV they will be assigned to test and will be forewarned of all known possible safety hazards by the senior test engineer or someone appointed by the senior test engineer. Applicable SOPs will be reviewed and signed, and training will be documented.

(5) All UGV/UAV systems tested at Fort Knox will have an independent remotely operated shut down capability or redundant emergency stopping device with the technology to stop UGV/UAV system in case of signal loss between UGV/UAV system and remote control unit. The kill switch mechanism or emergency stopping devices and speed control features will be tested prior to the start of testing UGV/UAV each day. These tests include loss of control signal, control station emergency button, remote kill mechanism, and speed control mechanism.

(6) Precautions will be followed to avoid injuries from sharp or pinching tools.

(7) All gear drives, belt drives, and other moving parts must have protective guards.

(8) Any spills will be cleaned up immediately. Rags contaminated by cleaning operations will be placed in soluble plastic bags and then in covered metal containers and disposed of IAW environmental regulatory requirements.

(9) Tools and cables will not be left on the ground.

(10) Personnel shall use proper lifting procedures for any object over 50 pounds (i.e., two person lift).

(11) Ensure minimal personnel are in the work area before pressure is released from any hydraulic or pneumatic vessels.

(12) The work area shall be large enough to avoid a cramped work area and protruding objects.

(13) Personnel riding on any test system shall wear a hard hat or helmet, safety shoes, and if provided, use a seat belt.

(14) A radio will be at the test site for communicating with the test course office.

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Chapter 21
Composite Risk Management (CRM)

21-1. General. Composite risk management is a five-step cyclic process that is easily integrated into the military decision-making process; it doesn't have to be a separate consideration and shouldn't be. Field manual 5-19 contains detailed CRM guidance and will be used to ensure the CRM process is conducted to standard. The standard for CRM is leadership at the appropriate level of authority making informed decisions to control hazards or accept risks. All leaders are responsible and accountable for assessing their operations as total systems. They must ensure that CRM decisions match the mission and that control measures reduce the risks to a level that supports their commanders' guidance. The degree of risk determines the level of authority at which a decision is made to accept risk. DA Form 7566 will be used to complete the five-step CRM process prior to all training events, and a copy will be maintained at the training site. Safety professionals of the ISO are authorized to take immediate corrective action upon identification of a hazardous condition or act that could result in personal injury and/or damage to equipment. They are further authorized to stop any operation or process that would immediately endanger life, health, or property.

21-2. Risk Assessment. It can range from simple to complex. A composite risk assessment causes leaders to place identified hazards and threats in perspective relative to the task at hand. Logically, hazards must be identified before the level of risk is determined.

21-3. Mission and Training Risk Assessment. The CRM process consists of the following steps:

a. The first step in CRM is to *Identify Hazards* or factors that may adversely affect people, property, and mission accomplishment. All aspects of current and future situations, as well as historical problem areas, must be considered. Other considerations are complexity and difficulty of the mission; terrain and environment; weather and visibility; equipment; time available for execution; and experience, supervision, training, morale, and endurance of the personnel involved. Conditions can change quickly, requiring constant vigilance. List hazards in column 6 on DA Form 7566. Hazard identification must take place during mission planning to be effective.

b. The second step is to *Assess Hazards* to determine their cumulative effect on the mission. Determine the potential loss and cost that could result from the identified hazards based on probability and severity. Probability determines the likelihood that the hazard may cause a problem or an accident, and severity determines the expected result of an event in terms of the degree of injury, property damage, or other mission impairing factors. Use the matrix (Figure 2-4) in FM 5-19 to determine the initial level of risk and check the appropriate block (L - Low, M - Moderate, H - High, and E - Extremely High) in column 7 on DA Form 7566.

c. The third step is to *Develop Controls and Make Risk Decisions*. Develop courses of action that eliminate hazards or reduce the risks. Controls may range from hazards alerts and physical warning signs to issuing protective clothing or avoiding the hazard altogether. List controls in column 8 on DA Form 7566. After establishing controls, re-evaluate the hazards to determine residual risk, again using the matrix (Figure 2-4) in FM 5-19 and ensure risks are reduced to a level where benefits outweigh potential costs. Then check the appropriate block in column 9 of DA Form 7566. Next, a decision must be made to accept any residual risk. The following will be used to determine risk acceptance decision authority:

(1) Extremely High Risk missions require approval by the first general officer in the chain of command.

(2) High Risk missions require approval by colonel-level brigade/regimental commander or director.

(3) Moderate Risk missions require approval by lieutenant colonel or equivalent and the Commandant, NCOA. This authority will not be delegated.

(4) Low Risk missions require approval by an O-3 level company commander. This authority may be delegated to the next lower level.

d. Step four is to *Implement Controls* or put controls in place that eliminates the hazards or reduces their risks. This may be done through verbal or written orders, SOPs, performance standards, safety briefings, and rehearsals. Ensure unit members and others associated with the mission clearly understand the controls. List how controls will be implemented in column 10 of DA Form 7566.

e. Step five is to *Supervise and Evaluate*. Supervision here is more than just ensuring that people do their job – it also means following up and continuously evaluating. It means fine-tuning the operation to accommodate unforeseen issues and incorporating lessons learned into after-action reports. List supervision and evaluation requirements and responsibilities in column 11 of DA Form 7566.

f. At this time, circle the appropriate residual risk level for the mission in block 11 of DA Form 7566. Overall residual mission risk is determined based on the hazard having the greatest residual risk. For example, if one hazard has a high residual risk, the overall residual risk of the mission is high, no matter how many moderate- or low-risk hazards are present. Determining overall mission risk by averaging the risks of all hazards is not valid. The DA Form 7566 will then be signed by the proper authority as provided in paragraph 21-3c of this regulation.

g. Daily composite risk assessment required in paragraph 6-2f, this regulation, will be prepared and signed by the senior military person present at the training site; it will not reduce the accepted residual risk without coordination with the approving authority.

21-4. Lesson Plan Risk Assessment.

a. The Composite risk management process will be used to evaluate each lesson plan used in the Armor School. FK Form 5006 will be used to record information, and a copy will be attached to each lesson plan. Lesson plans with no risk do not require a FK Form 5006 to be attached; however, it should be annotated on the lesson plan that it was evaluated for safety considerations. A training developer, instructor, or subject matter expert will comply with the following:

(1) Review each lesson plan, identify and assess hazards of each task, and identify countermeasures to either eliminate risk or reduce risk to an acceptable level.

(2) Determine if the training can be accomplished at an acceptable level of risk.

(3) Make a recommendation to the decision maker of whether or not to accept residual risks that cannot be eliminated.

(4) Modify training with unnecessary risk to an acceptable level.

b. Lesson plans with an Extremely High level of risk require approval by the first general officer in the chain of command. High risk approval authority is a colonel-level commander or director. Moderate risk approval authority is a lieutenant colonel or equivalent and the Commandant, NCOA. Low risk approval authority is a major-level commander. Low risk approval authority may be delegated to the next lower level of leadership.

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Chapter 22
Hazard Communication Program (HCP)

22-1. 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 HCP is designed to ensure that information about these hazards and associated protective measures are disseminated to workers and employers.

22-2. Responsibilities.

a. Commander, USAARMC, will comply with the following:

(1) Ensure an HCP is established and implemented to inform all USAARMC employees of the hazards associated with the chemicals in their work area.

(2) Ensure funding is made available to implement and maintain the HCP as outlined herein.

b. The ISO is responsible for the following:

(1) Oversee the HCP.

(2) Monitor unit's Chemical Hazard Inventory Log during the SASOHI performed annually.

(3) Provide Train the Trainer or initial training for the Federal HCP upon request.

(4) Monitor effectiveness of employee's Hazard Communication training through an established inspection program.

(5) Assist user in obtaining MSDS.

c. Preventive Medicine Service, MEDDAC, will provide the following services:

(1) Assist in determining employees to be trained through the Health Hazard Inventory Module (HHIM).

(2) Interpret MSDS 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. Provide copies of HHIM surveys to IMSE-KNX-SO upon request.

(4) Assist user and/or ISO in obtaining MSDS if not available.

d. Supervisors (military and civilian) will ensure employee Hazard Communication training is documented in the employee's record and in the Soldier's 201 file after completion of training.

e. Mission and Installation Contracting Command will be responsible for the following:

(1) Comply with requirements of Subpart 23.3 FAR 52.223.

(2) Ensure the least hazardous chemical is purchased for the intended task. The manufacturer will be required to submit an MSDS for the chemical they want to provide so the ISO can assist in determining the least hazardous chemical to purchase.

(3) If MSDS is not received with shipping documents, contact manufacturers supplying hazardous chemicals and request MSDS be forwarded as soon as possible.

(4) Forward one copy of the MSDS to the supply warehouse/receiving unit.

(5) Ensure contractor's safety programs include the OSHA requirements of Hazard Communication standards.

f. Commanders, directors and chiefs, and staff offices/departments will ensure the following:

(1) An individual is appointed to coordinate the HCP within their organization and act as the central POC.

(2) All elements of this program are complied with.

(3) This regulation, the organization's hazard chemical inventory, and applicable MSDSs are readily available for personnel working with hazardous chemicals.

g. The unit's responsibilities are as follows:

(1) Update the unit hazardous chemical inventory as new chemicals arrive in the unit.

(2) Request assistance for initial training for newly assigned military/civilian personnel by contacting the ISO.

(3) Prepare an SOP covering the use of chemical compounds, safe handling procedures, measures, protective clothing, and equipment employees must use.

(4) Ensure receipt of MSDS with shipment of hazardous chemicals.

h. Supervisors will achieve the following:

(1) Maintain an inventory of all hazardous chemicals used in the workplace.

(2) Maintain MSDS 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) Apprise 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 with shipment of hazardous chemicals.

(2) Provide MSDS to user at the time of issue.

22-3. 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 re-labeling is required, the user shall complete the DOD hazardous chemical label and affix it to all individual hazardous chemical containers. Known or suspect 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.

(8) Hazardous wastes must also meet the labeling requirements of the Environmental Protection Agency (EPA). Units generating hazardous wastes will contact the Environmental Management Division, at 624-3629, 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.

(1) Contents of any MSDSs used on Fort Knox must meet OSHA requirements.

(2) The MSDS for locally purchased items and nonstandard stock hazardous chemicals should be requested at the time of purchase.

(3) If an MSDS 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" in the search window. The hazardous chemical will not be used until a MSDS is available.

(4) Identification of a hazardous material and correct matching to its MSDS 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 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 file. Employees who question the safe use of a material will not be required to use it until an approved MSDS 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.

22-4. Unit Checklist for Hazard Communication Compliance.

a. Is an individual appointed to coordinate the HCP 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 the hazardous chemical inventory kept up to date, and is the updated list forwarded to the ISO?

d. Is there a MSDS for each chemical in the inventory, and are the MSDSs readily available for the worker's review?

e. Is an SOP developed covering the execution of the HCP within the unit?

f. Have all personnel who work with hazardous chemicals as a normal part of their duties been properly trained (i.e., The Federal Hazard Communication Training Program and unit specific training)?

g. Are all hazardous chemical containers properly labeled?

h. Are all hazardous chemicals properly stored?

i. 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?

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Chapter 23
Lockout/Tagout of Hazardous Energy Sources

23-1. Responsibilities.

a. Commander, USAARMC, will ensure a lockout/tagout program is established and implemented for the protection of personnel from accidental energization or start-up of equipment during maintenance/repair.

b. The ISO is responsible for the following:

(1) Monitor the effectiveness of this program during scheduled inspections and spot checks of work sites.

(2) Provide materials necessary to train employees on lockout/tagout procedures.

c. Commanders, directors and chiefs, and staff offices/departments will adhere to the following:

(1) Ensure employees required to use lockout/tagout devices are trained on the purpose and use of the lockout/tagout procedure.

(2) Provide locks and tags necessary to lockout/tagout energy sources during maintenance or repair of equipment. These locks and tags shall not be used for any purpose other than to lockout and tagout energy sources. Tags should be attached with non-reusable nylon cable ties.

d. Supervisors will comply with the following:

(1) Ensure 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 all elements of this regulation are being followed by employees.

(3) Be responsible for removing lockout/tagout devices in the event an employee who installed the devices is unable to remove them.

e. Employees will ensure the following:

(1) Comply with all procedures herein to prevent accidental start-up of equipment/ systems while performing maintenance or repair.

(2) Be knowledgeable of the equipment being serviced, the types of energy and hazards, and how to isolate the equipment from all energy sources.

23-2. Lockout Procedures.

a. Individual(s) performing maintenance will notify all affected employees that a lockout is required and the reasons for the lockout.

b. If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

c. Operate the switch, valve, or other energy-isolating device so that the energy source(s) (electrical, mechanical, hydraulic, etc.,) is 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, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding-down, etc.

d. After ensuring that no personnel are exposed and checking the disconnecting of the energy sources, operate the pushbutton or other normal operating controls to make certain the equipment will not operate. Return operating controls to neutral position after the test. The equipment is now locked out.

23-3. Restoring Equipment to Service. Removal of lockout/tagout devices by persons other than the employee(s) who applied them is not authorized unless circumstances are such that the employee(s) who applied them is/are unable to remove them (see paragraph 23-6, this regulation).

23-4. Procedure Involving More Than One Person.

a. Employees performing maintenance on the same equipment or machinery as other employees shall place their own personal lockout or tagout device on the energy isolating device(s).

b. When employees no longer need to maintain their lockout protection, they will remove their lock from the energy isolating device(s).

23-5. Shift or Personnel Changes.

a. If work on equipment is required by the next shift, the employees shall affix their lock/tag to the equipment identifying them as the responsible party for locking or tagging out the energy sources to the equipment.

b. The employee replacing the existing lock or tag should follow procedures in paragraph 23-2, this regulation.

23-6. Removal of Isolating Devices.

a. This procedure will only be applied to those situations where circumstances preclude the employee who applied the lockout or tagout ability to remove them.

b. The supervisor must verify that the employee who applied the device is unavailable to remove the lock or tag.

c. Make every reasonable effort to contact employees and inform them that their lockout or tagout device has been removed.

d. The supervisor will ensure that employees have been informed that their tags have been removed before the employees resume work in the facility where the lockout or tagout device was removed.

e. The reason for removal of an employee's energy isolating device shall be documented by the supervisor with a copy provided to the ISO.

23-7. Training.

a. Training shall be provided to ensure the purpose, function, knowledge, and skills of the lockout/tagout programs and procedures are understood by supervisors, operators, and qualified equipment maintenance. Training shall include the following:

(1) Each supervisor, operator, or any qualified equipment maintenance person shall receive initial job training on the type and magnitude of applicable energy sources, the methods and means necessary for energy isolation and control, and the use of the lockout/tagout procedures.

(2) All other personnel whose duties are, or may be in an area where lockout/tagout procedures may be used, shall be briefed on the lockout/tagout program during the initial job safety briefing.

b. When lockout/tagout procedures are used, supervisors, operators, or any qualified equipment maintenance personnel shall receive initial job training on the use of locks and tags as follows:

(1) Tags are essentially warning devices attached to energy isolating devices and do not provide the physical restraint on those devices that is provided by a lock.

(2) When a lock or tag is attached to an energy-isolating device, only the person, supervisor, or the designated representative who initially installed the lock or tag can remove it, and it can never be bypassed, ignored, or otherwise defeated.

(3) Tags may cause a false sense of security, and their use and limitations need to be understood as part of the overall energy control program.

(4) Tags will be securely attached so that they cannot be inadvertently or accidentally detached during use.

c. Retraining shall be provided for supervisors, operators, and qualified equipment maintenance personnel at least annually or when there is a change in their job assignments; a change in machines or equipment; processes that present a new hazard; or changes in lockout/tagout procedures. Additional retraining shall also be conducted whenever a periodic inspection reveals that there are deviations from, or inadequacies in, the supervisor, operator, or qualified equipment maintenance personnel's knowledge or use of the lockout/tagout procedures.

d. All training shall be certified, documented, and kept up to date. The certification shall contain each individual's name and dates of training.

Chapter 24
Bloodborne Pathogens

24-1. General. This chapter establishes responsibilities and procedures to eliminate or minimize occupational exposure to blood and bloodborne diseases, i.e., Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

24-2. Requirements. The following requirements shall be implemented:

a. Exposure Control Plan. Commanders, directors and chiefs, and staff offices/departments having personnel with occupational exposure to bloodborne pathogens or other infectious materials shall establish a written Exposure Control Plan designed to eliminate or minimize personnel exposure. The Exposure Control Plan shall contain at least the following elements:

(1) An exposure determination shall be developed, which includes all job classifications in which personnel have occupational exposure to blood, body fluids, or other potentially infectious materials (OPIMs). In addition to the job classifications, list all tasks and procedures that are performed by personnel in which occupational exposure occurs. This exposure determination shall be made without regard to the use of PPE.

(2) A copy of the Exposure Control Plan shall be accessible to all personnel.

(3) The Exposure Control Plan shall be reviewed and updated at least annually and when necessary to reflect new or modified tasks and procedures that affect occupational exposure and reflect new or revised personnel positions with occupational exposure.

b. Methods of compliance are stated below:

(1) General. Standard precautions shall be observed to prevent contact with blood or OPIMs. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(2) Engineering and work practice controls. Engineering and work practice controls shall be used and evaluated annually to eliminate or minimize personnel exposure. When occupational exposure remains after institution of these controls, PPE shall also be used.

(3) Hand washing facilities, which are readily accessible to personnel, shall be provided. antiseptic hand cleanser, in conjunction with clean cloth/paper towels or antiseptic towelettes, may be used when hand-washing facilities are not available. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

(4) Personnel will wash their hands immediately or as soon as feasible after removal of gloves or other PPE.

(5) Personnel will wash hands and any other skin with soap and water or flush mucous membranes with water immediately or as soon as feasible following contact of these body areas with blood or OPIMs.

(6) Specimens of blood and OPIMs shall be placed in a container that prevents leakage during collection, handling, or transport. Infectious materials in containers will be taken to the Logistics Branch at Ireland Army Hospital for disposal.

(7) Equipment that may become contaminated with blood or other potentially infectious materials shall be decontaminated. Decontaminate equipment by using an EPA-approved disinfectant. Read and follow the product instructions found on the container as well as the MSDS.

24-3. Personal Protective Equipment (PPE).

a. Appropriate PPE shall be provided at no cost to personnel. Personal protective equipment provides for the protection of work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time that the protective equipment will be used.

b. The supervisor shall accomplish the following:

(1) Ensure that PPE is cleaned, laundered, or disposed of at no cost to personnel.

(2) Ensure that PPE is repaired or replaced as needed to maintain its effectiveness.

c. Employees will comply with the following:

(1) Remove garments that are penetrated by blood or OPIMs as soon as possible.

(2) Remove PPE before leaving the work area and place in an appropriate designated area or container for storage, washing, decontamination, or disposal.

(3) Wear impermeable gloves when it can be reasonably anticipated that personnel may have hand contact with blood, OPIMs, mucous membranes, and non-intact skin or when handling or touching contaminated items or surfaces.

(4) Replace disposable (single-use) gloves, such as surgical or examination gloves, as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or their ability to function as a barrier is compromised. Multiple use gloves may be decontaminated for re-use if the integrity of the glove is not compromised.

(5) Wear masks in combination with eye protection devices, such as goggles or glasses with solid side shields or chin length face shields, when splashes, spray, spatter, or droplets of blood or OPIMs may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

(6) Appropriate protective clothing such as, but not limited to, gowns, aprons, or similar outer garments shall be worn during occupational exposure situations depending upon the task and degree of exposure anticipated.

24-4. Housekeeping.

a. The worksite will be maintained in a clean and sanitary condition. The supervisor shall implement an appropriate written schedule for cleaning and method of appropriate decontamination.

b. All equipment, as well as environmental and working surfaces, shall be cleaned and decontaminated after contact with blood or OPIMs.

c. Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures, when surfaces are overtly contaminated, after any spill of blood or OPIMs, and at the end of the work shift.

d. Broken glassware, which may be contaminated, shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, i.e., brush and dust pan, tongs, or forceps.

24-5. Regulated Waste (Infectious Waste). Regulated Waste (Infectious Waste) will be disposed of as follows:

a. Placed in containers that are closable.

b. Bagged at point of generation and placed into sturdy, leak proof containers.

c. Identified by red/orange bags or biohazard label or sticker.

d. Placed in containers/bags that are closed before removal from generating area to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

e. Placed in a second container if outside contamination of the regulated waste container occurs. The second container shall meet the regulatory requirements of the first container/bag.

24-6. Laundry.

a. Contaminated laundry shall be handled as little as possible with a minimum of agitation to prevent contamination of the person handling it.

b. Contaminated laundry shall be bagged or containerized at the location where it was used.

c. Contaminated laundry shall be placed and transported in labeled, leak proof bags. It may be necessary to use double bags to prevent soak-through and/or leakage of fluids to the exterior.

d. The supervisor shall ensure that personnel who have contact with contaminated laundry wear protective gloves and other appropriate PPE.

24-7. Labeling Procedures.

a. Labels shall be fluorescent orange or orange-red, contain the biohazard symbol and the word **BIOHAZARD** in a contrasting color, and attached to each object by string, wire, adhesive, or another method to prevent loss or unintentional removal of the label. Labels will be affixed as close as possible to the container.

NOTE: Red bags or red containers may be substituted for labels.

b. Access to work areas that contain potential "BIOHAZARDS" will be identified, and access is by authorized individuals only.

c. A biohazard bag or container (red/red orange) or biohazard label will be used for infectious waste.

24-8. Employee Health Components.

a. The Hepatitis B vaccine will be made available to personnel who have been determined by the Chief, Preventive Medicine Service, to be at high risk for occupational exposure to blood or other potentially infectious material (OPIM). Hepatitis B vaccine is available for personnel in high-risk occupations. Requests for the vaccine are issued by the OHS and administered by the Immunization Clinic, Ireland Army Community Hospital.

b. Civilian employees who choose not to accept the offer of the Hepatitis B vaccination must sign the mandatory declination statement (paragraph 24-13, this regulation) per 29 CFR 1910.1030. If an employee initially declines the vaccination but later decides to undergo the vaccination series, the employer must provide the vaccine at that time provided the employee is still occupationally exposed.

24-9. Post-exposure Evaluations and Follow-up.

a. Personnel who have had an exposure to blood or OPIM are to seek a medical evaluation immediately. The medical evaluation will be conducted in the Emergency Room, Ireland Army Community Hospital, with a consultation to OHS for follow-up. The medical evaluation and follow-up will include the following elements:

(1) Documentation of exposure route and circumstances surrounding the exposure incident.

(2) Identification of the source individual should be determined if feasible. The source individual's HIV and HBV infection status must be determined and documented per laws and regulations related to consent for testing, documentation, and confidentiality.

(3) The source individual's laboratory results, as they pertain to exposure, will be made available to the affected individual. The affected individual must be informed of applicable confidentiality laws relative to source individual.

(4) Collection of the individual's blood for baseline HBV and HIV serological testing must be done as soon as possible after consent is obtained. If the individual consents to a baseline blood collection but does not give permission at that time for HIV testing, the sample must be stored in a manner that would preserve it for testing within the next 90 days. This 90-day period provides time for the individual to receive counseling and make an informed decision about testing. If within the 90-day period the individual decides to proceed with testing and provides consent, OHS will submit the order to conduct the testing as soon as possible.

b. The supervisor must ensure the evaluating healthcare professional is provided with:

(1) A copy of the Bloodborne Pathogens Standard.

(2) A description of the affected individual's duties as they relate to the occupational exposure.

(3) Documentation of route of exposure, circumstances as to how exposure occurred, results of the source individual's blood testing related to the exposure incident, if available, and the affected individual's medical records.

c. The health care provider must provide the "Health Care Professional's Written Opinion" to the supervisor who, in turn, must give a copy to the affected individual within 15 working days of the completion of the evaluation.

d. The written opinion is documentation that the affected individual has been told about any medical conditions resulting from exposure to blood or OPIM, which requires further evaluation or treatment. Documentation confirms if Hepatitis B vaccination was indicated and if the affected individual received the vaccine.

24-10. Recordkeeping.

a. Medical Records. A confidential health record is initiated by the health care professional when an individual receives the Hepatitis B vaccination or is treated following an exposure incident. This record includes the below:

(1) Name and social security number of the individual.

(2) A copy of the individual's Hepatitis B vaccination status.

(3) Testing and examination results and follow-up procedures.

(4) A copy of the health care professional's written opinion and information provided by the employer to the health care professional about the exposure incident.

(5) Medical records must be maintained for at least the duration of employment plus 30 years.

b. Training Records. Information that must be maintained in these records includes the following:

(1) Dates of the training sessions.

(2) Contents or a summary of the training sessions.

(3) Names and qualifications of the people conducting the training sessions.

(4) Names and job titles of all personnel attending the training sessions.

(5) Training records shall be maintained by the supervisor for 3 years from the date on which the training occurred.

24-11. Information and Training.

a. All personnel with potential occupational exposure will participate in a training program, which will be provided during duty hours. A qualified instructor will provide the necessary training.

b. Training shall be provided at the time of initial assignment to tasks where occupational exposure may take place and at least annually thereafter. Additional training shall be provided when changes such as modification of tasks or procedures or new tasks or procedures affect the individual's occupational exposure.

24-12. Bloodborne Pathogen Terms.

a. *Bloodborne Pathogens.* Pathogenic micro-organisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, HBV and HIV.

b. *Contaminated.* The presence or the reasonable anticipated presence of blood or OPIMs on an item or surface.

c. *Contaminated Laundry.* Laundry that has been soiled with blood or other potentially infectious materials.

d. *Decontamination.* The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles, and the surface or item is rendered safe for handling, use, or disposal.

e. *Engineering Controls.* Controls that isolate or remove the bloodborne pathogens hazard from the workplace.

f. *Exposure Incident.* A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIMs that result from the performance of an employee's duties.

g. *HBV.* Hepatitis B Virus.

h. *HIV.* Human Immunodeficiency Virus.

i. *Occupational Exposure.* Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIMs that may result from the performance of an employee's duties.

j. *Other Potentially Infectious Materials.* Human body fluids such as semen, vaginal secretions, cerebrospinal, synovial, pleural, pericardial, peritoneal and amniotic fluids, saliva in dental procedures, and any unfixed tissue or organ (other than intact skin) from a human (living or dead).

k. *Parenteral.* Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

l. *Personal Protective Equipment.* Specialized clothing or equipment worn by an employee for protection against a hazard.

m. *Regulated Waste.* Liquid or semi-liquid blood or OPIMs, contaminated items that would release blood or OPIMs in a liquid or semi-liquid if compressed, and items that are caked with dried blood or OPIM and are capable of releasing these materials during handling.

n. *Source Individual.* Any individual, living or dead, whose blood or OPIMs may be a source of occupational exposure to the employee.

o. *Standard Precautions.* An approach to infection control. According to the concept of standard precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

p. *Work Practice Controls.* Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

24-13. Employee Declination Statement for Hepatitis B Vaccine. Civilian employees who choose not to accept the offer of the Hepatitis B vaccination must sign a mandatory declination statement per 29 CFR 1910.1030(f)(2)(iv).

I understand that due to my occupational exposure to blood or OPIMs, I may be at risk of acquiring Hepatitis B Virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or OPIMs and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

_____

SIGNATURE

_____

DATE

Chapter 25
Ionizing Radiation Protection

25-1. General. This installation is committed to the operating philosophy of maintaining occupational radiation exposure as low as is reasonably achievable (ALARA) and maintaining effective control of radioactive items to ensure that exposure to ionizing radiation and the possible release of airborne radioactive contaminants is ALARA. The IRSO will provide overall coordination, advice, and assistance for radiological safety, except for MEDDAC, which will be managed by the assigned medical Radiation Protection Officer (RPO) per paragraph 25-2c, this regulation.

25-2. Responsibilities.

a. The installation commander shall accomplish the following:

(1) Ensure there are adequate resources to support the Radiation Protection Program to include, but not limited to, the presence of an IRSO or an alternate RSO (ARSO) for duty during all normal duty hours.

(2) Ensure that measures are established to control health and safety hazards from ionizing radiation sources, devices, commodities, and radioactive materials.

(3) Ensure that occupational exposures are maintained within regulatory limits and comply with the ALARA principle.

(4) Designate in writing an IRSO and ARSO.

(5) Designate members for the Installation Radiation Control Committee (IRCC).

b. Commanders (except MEDDAC), directors, and activity chiefs possessing ionizing radiation sources will achieve the following:

(1) Designate a Unit Radiation Safety Officer (URSO) in writing.

(2) Ensure copies of DA Pam 385-24 and Fort Knox Reg 385-10, Chapter 25 are maintained at least at Squadron/Brigade level.

(3) Ensure items containing radioactive material are used solely as intended by pertinent technical bulletins, technical manuals, operator manuals, and all other written guidance to ensure personnel exposure is kept as low as reasonably achievable.

(4) Establish procedures and provide a unit SOP to delineate responsibilities for the safe storage, use, identification, control, and disposal of ionizing radiation sources and material under their command/control.

(5) Maintain inventories of active and disposable radioactive materials, sources, commodities and ionizing radiation-producing devices.

(6) Ensure storage areas comply with DA Pam 385-24, The Army Radiation Safety Program, 24 August 2007 and applicable technical publications.

(7) Submit inventories of ionizing radiation sources to the IRSO not later than 31 January yearly.

(8) Ensure that URSO has the training, time, and resources necessary to perform their duties.

c. Commander, MEDDAC, will adhere to the following:

(1) Maintain policies and procedures necessary to ensure that use of radiation and radioactive material is per Federal and Army regulations and any licenses or authorizations specific to the Fort Knox MEDDAC.

(2) When requested, provide medical support (i.e., bioassay) advice and technical consultation on radiation issues.

(3) Maintain an inventory of radioactive materials and devices and provide copies to the IRSO not later than 31 January each year.

(4) Provide copies of the MEDDAC Radiation Control Committee meeting minutes to the IRSO.

(5) Submit the results of US Army Center for Health Promotion and Preventive Medicine and Nuclear Regulatory Commission (NRC) ionizing radiation protection surveys to the IRSO.

d. The DOL will accomplish the following:

(1) Refer requests for ionizing radiation sources to the IRSO for review.

(2) Obtain IRSO guidance and approval for all off-post shipments of radioactive material, commodities, and devices.

(3) Notify the IRSO immediately upon receipt of all shipments containing radioactive materials.

(4) Ensure that vehicles (military or commercial) unloading radioactive materials at Fort Knox are not released if approval is required by the IRSO or the IRSO's representative per local SOP.

(5) Ensure that end items and components identified in TB 43-0116, Identification of Radioactive Items in the Army and TB 43-0216, Safety and Hazard Warnings for Operation and Maintenance of TACOM Equipment, as containing radioactive material are screened and proper disposal actions taken.

(6) Provide for storage space and consolidate radioactive waste. Coordinate disposal actions with the IRSO.

e. Director, (DES) will comply with the below:

(1) Ensure technical advice and consultation on proper fire control techniques is provided to radioactive material storage providers by the fire department. The IRSO will provide information regarding the radiation hazards in particular areas and what special precautions may be necessary in regards to the material stored there.

(2) Ensure that contractors have completed and forwarded DA Form 3337, Application for DA Radiation Authorization (DARA) or Permit (DARP), to the IRSO 45 days before transporting radioactive material onto the installation.

f. Defense Reutilization and Marketing Office will notify the IRSO if material or equipment, which is suspected of containing or contains radioactive material, is received.

g. Director, MICC will accomplish the following:

(1) Ensure that transporters of radioactive materials on or off Fort Knox are knowledgeable concerning the accident reporting requirements of DA Pam 385-40, Army Accident Investigation and Reporting, 1 November 1994, and other Federal regulations.

(2) Ensure that contractors have completed and forwarded DA Form 3337, Application for DARA or DARP, to the IRSO 45 days before transporting radioactive material/instruments onto the installation.

(3) Ensure that license holders and license applicants (i.e., contractors or subcontractors) do not impose conditions in settlement agreements or in other agreements affecting employment that would prohibit, restrict, or discourage an employee from providing information on potential safety violations or hazards.

h. Commanders disposing/transferring radioactive waste will adhere to the below procedures:

(1) Notify the IRSO so that pickup can be arranged.

(2) Prepare all necessary paperwork for the transfer of items to DOL.

(3) Establish handling and control procedures to preclude the unauthorized removal or salvage of radioactive material.

i. Installation Radiation Safety Officer. The IRSO will be designated in writing and assigned to the ISO and will accomplish the following:

(1) Establish procedures, which will ensure the CG, USAARMC and Fort Knox (or the appointed designee), is advised of any anticipated use of radiation sources or operations other than scheduled calibration of radiac instruments or x-ray equipment used by MEDDAC.

(2) Ensure personnel have been instructed in safe working practices; emergency procedures; harmful biological effects of ionizing radiation; reports of defects and noncompliance; and other topics as required by Title 10, CFR, Part 19, and appropriate Army regulations.

(3) Evaluate all operations involving the use or storage of radioactive materials to determine the need for restricted areas, dosimetry, or other control measures. This evaluation will include, as needed, physical measurement.

(4) Review all operations involving the use or storage of radiation sources to ensure that dose rates to personnel comply with the ALARA principle.

(5) Ensure that leak tests are conducted and that radioisotope leak tests and inventory reports are submitted per this regulation on all individually controlled items.

(6) Per DA Pam 385-40, submit Radiation Incident/Accident reports as necessary.

(7) Ensure notices to workers, warning signs, instructions, and other notices required by Title 10, CFR, and local SOPs are posted.

(8) Determine that all shipping arrangements for radioactive materials are per DOT regulations in Title 49, CFR, and Title 10, CFR, Part 71. This includes, but is not limited to, packaging mode of transport, destination, location of transport vehicle, information supplied on shipping documents, labeling of packages for interim storage in warehouses, and placarding of vehicles.

(9) Monitor each outgoing shipment and provide information and/or readings for shipping papers as required by Title 10, CFR, Part 71, and Title 49, CFR, Part 173, or appropriate tariffs.

(10) Inspect/monitor each incoming package (in excess of Type A limits) received on Fort Knox containing radioactive material (except hospital packages) within 3 hours, if received during duty hours, or within 18 hours, if received after duty hours, as required by this regulation and local SOP.

(11) Monitor every vehicle or aircraft (military or commercial) that has transported radioactive materials (in excess of type A limits) on Fort Knox when required by this regulation and local SOP.

(12) Approve, if necessary, requests to procure radiation sources.

(13) Suspend any operation that represents a serious radiation hazard or violates applicable regulations.

(14) Monitor and advise URSO's.

j. Unit Radiation Protection Officer. The URSO will accomplish the following:

(1) Formulate and implement the Radiation Protection Program in their unit to ensure personnel safety and regulatory compliance.

(2) Successfully complete the TACOM-RI Radiation Safety Course.

(3) Review local rules and procedures for transportation, disposition, procurement, storage and use of radioactive material and ensure compliance with the applicable regulations and directives.

(4) Provide the commander/director and radiation workers with advice and assistance on all matters pertaining to radiation protection.

(5) Provide training and instruction to users and visitors in the safe use of protective equipment, radioactive material, radiation-producing devices, etc. All training will be documented with the trainee's signature and should be conducted annually as a minimum.

(6) Review radiological operations to determine compliance with regulations and SOPs.

(7) Ensure proper personnel monitoring devices are used.

(8) Per AR 40-14, maintain dosimetry records on file.

(9) Perform radiation surveys and leak tests or ensure that such surveys and leak tests are performed.

(10) Assist in the investigation of radiation accidents, incidents, and overexposure.

(11) Prepare FK Form 3151 for all radioactive items being transferred to DOL.

(12) Attend the semi-annual IRCC meeting.

k. Supervisors of Radioactive Material. Supervisors of radioactive material or radiation-producing devices will comply with the below items:

(1) Maintain an inventory of radiation sources for which they are responsible. Copies will be forwarded to the URSO/ARSO.

(2) Post appropriate warning signs.

(3) Ensure personnel receive annual training on safe working practices, emergency procedures, and harmful effects of radiation exposure, and the training is documented.

(4) Comply with the ALARA principle by minimizing radioactive exposure and contamination.

(5) Secure radioactive sources from unauthorized use.

(6) Before the start of any operation involving radioactive material or possible exposure to radiation, prepare an SOP for review by the IRSO. The SOP will contain as a minimum:

(a) Responsibilities.

(b) Maximum levels of radiation (exposure and activity of source).

(c) Storage.

(d) Dosimetry.

(e) Fire protection.

(f) Security.

(g) Decontamination procedures.

(h) Emergency procedures.

(7) Enforce SOPs, rules, and special precautions.

(8) Report any radiological accident, unsafe incident, suspected overexposure or contamination, or any incident involving lost or found radiation-containing material to the IRSO/URSO.

25-3. Control of Ionizing Radiation Sources.

a. No radioactive material (except hospital material) may be brought on the installation unless it is:

(1) Incorporated in a standard issue item such as is defined in TB 43-0116, Identification of Radioactive Items in the Army Supply System.

(2) Covered by a specific or general license issued by the NRC to an activity on the installation.

(3) Authorized by a DARA for Army-owned quantities exempt from NRC licensing.

(4) Included in a DA radiation permit granted for the use, storage, possession, or disposal of any source by non-Army agencies.

(5) Authorized by the installation commander (temporary use or storage only) for a maximum of 15 calendar days.

b. Radiation-producing devices (i.e., industrial x-ray machines) must be reported to the IRSO within 5 days of arrival on the installation.

c. Inventories of all ionizing sources of the owning activities will be prepared by the URSO and forwarded to the IRSO by 31 January of each year.

d. Areas where ionizing radiation sources are stored or used must be properly secured and marked. Areas must be surveyed with a radiation meter, which is marked ACTIVE and is properly calibrated to determine required precautions and applicable warning signs. This survey must be accomplished semiannually or whenever major changes are made in the quantity or type of radioactive source, the building or shielding in the area, or procedural changes for the use of the source. The IRSO will conduct and document results of surveys.

e. If warning signs are required, other documents may be required to provide information to workers, visitors, emergency rescue personnel, investigative authorities, etc. This includes but not limited to:

(1) "No eating, drinking, smoking, or applying of cosmetics is permitted in this area" (ATZK-S Poster 385-11-1, Feb 04).

(2) CAUTION – RADIOACTIVE MATERIAL.

(3) Notice to employees: NRC Form 3.

(4) NRC notice of violations – if any.

(5) Energy Reorganization Act of 974: Section 206.

(6) Applicable licenses*

(7) Emergency procedures and SOPs*

(8) Title 10, CFR, Parts 19, 20, and 21*

*If posting these documents is not practical, a notice may be posted with NRC Form 3 that describes the documents and states where they may be examined.

f. Standard issue items (see TB 43-0116) containing radioactive material must be removed immediately from service when found to be broken, leaking, or unserviceable. Contact the IRSO or AIRSO for removal action. Unauthorized personnel must not take apart or attempt to repair such items. Standard issue items must be used only for their intended purpose and only under proper supervision.

g. Any proposed transfer of radioactive material, sources, devices, or commodities outside the Army must be approved by the IRSO/ARSO.

h. For technical or regulatory advice and assistance, the IRSO or ARSO may be contacted at the ISO.

25-4. Transportation of Radioactive Materials.

a. Upon receipt of a package containing radioactive material (in excess of Type A limits), the transportation officer will contact the IRSO/ARSO. The vehicle (military or commercial) must be held until it is monitored and released by the IRSO/ARSO should that be determined as necessary by local SOP. Packages will be monitored within 3 hours of receipt (in excess of Type A limits) during normal duty hours and within 18 hours if received after normal duty hours. The IRSO/ARSO will monitor the package visually and with an appropriate survey meter to determine if any further action is necessary.

b. Off-post shipments must comply with regulations established by the DOT, the NRC, affected states, and Army regulations. Packages will be monitored/wipe tested by the IRSO/ARSO to ensure appropriate information is placed on the shipping documents.

c. Radioactive materials may be temporarily stored in connection with movement (transportation using standard procedures) as long as the following guidelines are followed.

(1) They will not be stored in the same warehouse section with explosives, flammable materials, photographic film, or unsealed food products.

(2) Packages labeled with Radioactive White I, Yellow II, or Yellow III labels will be placed in a controlled area of the warehouse.

(3) The IRSO/ARSO will be made aware of the location of any package with Radioactive White I, Yellow II, or Yellow III labels.

d. Standard issue items containing radioactive materials (except individual controlled items) may be moved and used anywhere on the installation, consistent with the owning activity's mission and the items intended purpose as specified in the applicable technical publications.

e. Unsealed or leaking "sealed sources" will be moved only by the IRSO or ARSO.

f. Drivers of vehicles carrying radioactive materials will adhere to the procedures governing transportation of hazardous materials.

25-5. Disposal of Radioactive Waste.

a. When material has been determined (by radiac meter, AMDEF, or published TB) to be radioactive waste, the IRSO/ARSO will be notified. The following information must be provided:

(1) NSN.

(2) Number of items.

(3) Nomenclature.

(4) Other identifying information.

(5) Whether or not the device is leaking or suspected of leaking.

(6) Serial numbers (if applicable).

(7) Radioactive isotope.

(8) Activity in millicuries or microcuries (mCI or uCI).

b. Arrangements must be made by the owning activity to drop the items from accountability so that disposal actions can be accomplished.

c. The IPRO or AIRSO will provide instructions to the owning activity. Leaking sources will be picked up and moved only by the IRSO or AIRSO.

d. When sufficient material has been accumulated to make disposal desirable, the IRSO will request disposal instructions from the applicable license holder.

25-6. Emergencies. When any abnormal or emergency situation involving radioactive materials develops at Fort Knox, the IRSO or AIRSO must be notified immediately. A roster will be maintained in the staff duty officer's instruction book. The first few minutes after the discovery of a radiological accident can be the most critical if there are injuries involved. During this period, personnel present at the site must take immediate action (based on an assessment of the degree and nature of the hazard) to ensure appropriate lifesaving, control, and containment procedures are initiated.

a. Actions taken should follow roughly in the order given:

(1) Administer lifesaving first aid.

(2) Remove injured personnel from radiation area.

(3) Notify the MEDDAC as soon as possible that personnel have been contaminated.

(4) Keep all unnecessary personnel out of the area.

(5) Administer first aid for lesser injuries.

(6) In case of fire, clear the downwind area as far as feasible, at least to a distance free from direct smoke inhalation.

(7) Decontaminate injured personnel as soon as possible.

(8) Do not allow any personnel, equipment etc., thought to be contaminated out of the area.

(9) Identify and record names of affected personnel.

(10) Any action which increases the chance of radioactive materials entering the body must be prevented. Open wounds must be cleaned (decontaminated) thoroughly. Smoking, eating, and drinking will not be permitted in any area thought to be contaminated.

(11) Every attempt should be made to decontaminate individuals before they are transported to receive medical treatment.

b. The following paragraphs provide some guidance for accomplishment of the actions above. Accurate assessments and good judgment, however, must be exercised.

c. Normal first aid procedures may be used with the following exceptions, modifications, and considerations:

(1) Only those personnel with severe (i.e., life or limb endangering injuries) should be treated before removal from the immediate site of the accident. Once lifesaving procedures have

been accomplished, the dangers of moving personnel from the site must be weighed against the danger of continuing radiation exposure from remaining at the site. Decontamination of injured personnel should begin as soon as possible with emphasis on removal of gross amounts of radioactive contaminants, especially from the vicinity of wounds.

(2) Personnel with minor injuries should be removed from the immediate site of the accident and decontaminated before treatment is given.

d. The priority of radiation exposure control is second only to the preservation and safety of human life and limb. Therefore, after emergency first aid has been given, all efforts will be directed towards the reduction of exposure of personnel to radiation. Thus, it should be remembered that any unnecessary radiation exposure is considered excessive. The following guidance is provided:

(1) Radiation exposure is reduced by minimizing exposure time by increasing the distance between the source of radiation and personnel and by shielding (dense materials, e.g., lead, cement, sand, plastics) between the radioactive source and personnel.

(2) All but the most severely injured personnel will be removed from the site of an accident at the earliest possible time. First aid for minor injuries should be delayed until the patient is decontaminated (if injury permits).

e. Medical personnel at the hospital/clinic and ambulance personnel must be informed ASAP of the possibility of contamination to injured personnel. Information given should be as detailed and complete as possible.

f. Prompt decontamination (removal of contaminants) can be accomplished in various ways. Methods selected will depend on the circumstances encountered at the site, i.e., location and concentration of contaminant on personnel, number involved, etc.

g. Actions taken to decontaminate personnel can include the below:

(1) Removal of clothing (most contaminants are usually on clothing and shoes).

(2) Thorough washing with nonabrasive soap and lukewarm water. Avoid the use of organic solvents; they increase the probability of radioactive materials penetrating through the pores of the skin.

(3) Localized contaminated areas should be marked off and cleansed with swabs to minimize the danger of spreading contaminants by general washing.

(4) Showering under tepid water using a mild soap solution in the event contamination is not localized or several individuals have been contaminated.

h. All materials used in the decontamination of personnel will be treated, handled, and disposed of as low-level radioactive waste under the supervision of the IRSO/AIRSO/MEDDAC RPO/DES.

i. If there has been a fire or airborne release of radioactive contaminants suspected, nose wipes will be taken from all personnel in the immediate vicinity of the accident before they are released from the site. Wipes will be protected from cross contamination and will be identified, as a minimum, with the name, SSN, unit, and telephone number of the individual.

j. In any case, the name, SSN, address, unit, and telephone number (as applicable) will be obtained from each individual involved.

k. Proper control and containment of radioactive contamination assists in minimizing personnel exposure and in the eventual task of area decontamination.

(1) Take all possible steps to isolate and close off the accident site to include sealing all windows and doorways, shutting down ventilation systems, and limiting access to authorized personnel only (i.e., emergency response team members, fire fighters, military police, medical personnel).

(2) If fire is involved, extinguish (if possible) as quickly as possible. Take precautions to prevent water run-off from leaving the area.

(3) Contain and isolate all contaminated or possibly contaminated personnel and equipment until decontamination and monitoring operations are complete.

(4) If it is essential (loss of life or limb) to remove any individual or piece of equipment from the scene before decontamination is complete, take all prudent precautions to prevent the cross-contamination of otherwise uncontaminated personnel, areas, equipment, and vehicles.

(5) Suspect that everyone and everything involved with the accident is contaminated (worst case scenario) until it is shown by monitoring to be otherwise.

l. The IRSO will advise the DES of areas used to store radioactive material and the particular hazards associated with each area.

(1) Per published technical data, radioactive materials will be stored strictly to ensure prevention of any significant external dose under any conditions. Fire fighters should wear self-contained breathing apparatus and protective clothing while fighting fires that possibly involve radioactive materials.

(2) The IPRO will be informed of any fire involving an area where radioactive material is stored.

25-7. Procedures for Control of Storage Areas. Radioactive storage areas must be approved by the IRSO/AIRSO. The IRSO will evaluate/wipe test storage areas as required by the NRC license.

25-8. Report of Safety Hazards.

a. The CFR, Title 10, Part 21, requires that any manufacturing defect involving any device licensed by the NRC must be reported within 2 days following receipt of the information. Failure to comply may result in civil penalties assessed in the amount provided by Section 234 of the Atomic Energy Act of 1954, as amended. DA personnel are NOT exempt from this requirement.

b. Any individual discovering or having knowledge of an ionizing radiation safety hazard must report such knowledge to the IRSO or AIRSO in an expeditious and timely manner. Possible safety hazards include, but are not limited to:

(1) Release of unauthorized amounts of radioactivity to an unrestricted area (the environment). Action such as incinerating, crushing, throwing in dumpsters, etc., of radioactive material (with some minor exceptions) is strictly prohibited by law.

(2) Unauthorized disassembly of a radioactive component.

(3) Leaking "sealed" source.

(4) Overexposure or suspected overexposure of personnel.

(5) Loss of control of radioactive items.

(6) Dose rates in **unrestricted** areas in excess of 0.5 millirem per hour.

(7) Failure to use individually-controlled radioactive items strictly per applicable technical publications.

c. The IRSO will evaluate the information, investigate if necessary, and determine if the accident/incident should be reported as a "Substantial Safety Hazard" in accordance with Title 10, CFR, Part 21.

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Chapter 26
Confined Space Entry

26-1. General. This section contains requirements for practices and procedures to protect Soldiers and civilians from the hazards of entry into confined spaces. Confined spaces can become unsafe for occupancy as a result of possible atmospheric contamination by toxic or flammable vapors, oxygen deficiency, or excess; possibility of liquids, gases, or solids being admitted during occupancy; or rendering of the occupants isolated from help in case of need. This section sets forth minimum requirements for safe entry, continued work in, and exit from confined spaces on Fort Knox.

a. "Confined space" means a space that contains the below:

(1) Large enough and configured so that an employee can bodily enter and perform assigned work.

(2) Limited or restricted means for entry or exit (i.e., tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).

(3) Not designed for continuous employee occupancy.

b. "Entry" means the action where a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.

c. "Non-permit confined space" means a confined space that does not contain or, with respect to atmospheric hazards, has the potential to contain any hazard capable of causing death or serious physical harm.

d. "Permit-required confined space (permit space)" means a confined space that has one or more of the following characteristics:

(1) Contains or has a potential to contain a hazardous atmosphere.

(2) Contains a material that has the potential for engulfing an entrant.

(3) Has an internal configuration where 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.

(4) Contains any other recognized serious safety or health hazard.

26-2. Responsibilities.

a. Commander, USAARMC will ensure the following:

(1) Permit-required confined space entry program is established and implemented to inform and protect all USAARMC Soldiers and civilians from hazards associated with entering confined spaces.

(2) Funding is made available to implement and maintain the confined space entry program as outlined herein.

b. Commanders, directors, and branch chiefs of Soldiers and civilians who may be required to enter confined spaces will comply with the following:

(1) Establish a confined space entry SOP within each organization that has personnel required to enter and perform work in confined spaces.

(2) Appoint, in writing, gas detection monitors trained in the use of test equipment for evaluating atmospheric conditions within a permit-required space.

(3) Ensure the number of gas detection monitors appointed is sufficient to meet operating needs.

(4) Provide gas detection monitors with proper monitoring equipment and ensure manufacturer's recommendations for calibration of equipment is complied with.

(5) Ensure required equipment is available and maintained to support confined space entry.

(6) Ensure all personnel associated with the entry into a confined space are trained in accordance with paragraph 26-8, this regulation.

(7) Maintain a listing of all confined spaces within the organization.

c. The ISO is responsible for the following:

(1) Oversee the Confined Space Entry Program.

(2) Maintain a list of established confined spaces requiring a permit to enter.

(3) Provide guidance to supervisors in the preparation of SOPs on confined space entry.

(4) Approve SOPs prepared for confined space entry before they are published.

(5) Provide respiratory fit testing and training.

(6) Upon request, conduct on-site evaluations of confined space entry operations and permits to ensure compliance with prescribed directives.

d. Preventive Medicine Service will provide the following services:

(1) Guidance to supervisors/gas detection monitors in the preparation of SOPs on confined space entry.

(2) Upon request, conduct on-site evaluations of confined space entry operations and permits to ensure compliance with prescribed directives and provide the ISO a copy of results.

(3) Verify that personnel are appropriately trained to enter confined spaces.

(4) Conduct on-site evaluations of confined space entry operations and permits to ensure compliance with prescribed directives and provide the ISO with a copy of results.

e. Civilian Personnel Advisory Center (CPAC) will refer personnel being considered for employment who may be required to enter confined spaces to the OH clinic for pre-placement physical examinations.

f. Fire and Emergency Services Division, DES will comply with the following:

(1) Upon request, provide emergency standby while government employees are performing work in a permit-required space.

(2) Monitor atmospheric conditions within a permit-required space when acting in emergency standby capacity to ensure entrant personnel are not jeopardized by dangerous atmospheric conditions.

(3) Evaluate and issue hot work permits as part of the pre-entry procedures into confined spaces where welding is taking place.

g. Entry supervisors will adhere to the following:

(1) Meet all training requirements for entry supervisor identified in paragraph 26-8, this regulation.

(2) Ensure acceptable entry conditions are maintained throughout entry procedures.

(3) Ensure employees are supplied with and trained in the use and care of PPE, as well as required retrieval systems when applicable.

(4) Ensure an attendant is assigned to the confined space entry operation and knowledgeable in his/her duties.

(5) Ensure monitoring equipment is calibrated per manufacturer's recommendations.

(6) Strictly enforce safety and health guidelines for confined space operations.

(7) Ensure Gas Detection Monitors comply with paragraph 26-2h, this regulation.

(8) Authorize, oversee, and terminate entry operations per this regulation.

h. Gas detection monitors will accomplish the following:

(1) Appointment in writing.

(2) Trained in confined space entry procedures and proper selection, use, calibration, maintenance, and care of instruments required before performing such duties.

(3) Test confined space with properly calibrated testing equipment prior to employees entering the space.

(4) Ensure the confined space entry permit is completed before permitting workers to enter the space.

(5) Take precautions to prevent dangerous air contamination.

(6) Complete the confined space entry permit per paragraph 26-4, this regulation, before permitting entry.

(7) Ensure required PPE is on site and in good condition.

(8) Ensure personnel and equipment are protected during entry procedures.

i. Employees will comply with the following:

(1) Understand and strictly observe safety standards, regulations, and procedures applicable to confined space entry work.

(2) Use proper PPE for the appropriate confined space classification.

(3) Report any condition, procedures, or equipment considered unsafe to their immediate supervisor.

(4) Warn others believed to be endangered by failure to observe the proper procedures or precautions.

26-3. Entry and Rescue.

a. The confined Space Classification Table (appendix F) is based upon the characteristics of the confined space, oxygen level, flammability, and toxicity. If any of the hazards present a situation IDLH, the confined space shall be designated *Class A*. The classification shall be determined by the most hazardous condition of entering, working in, and exiting a confined space. A *Class B* confined space has the potential for causing injury and illness but is not IDLH. A *Class C* confined space is one in which the hazard potential would not require any special modification of the work procedure.

b. The Checklist of Consideration (appendix G) delineates the minimum preparation required for each class of confined space entry. Specific procedures, activities, or requirements are correlated with a classification are mandatory. For example, the Permit System (Class A, B, and C) means a permit is mandatory for Class A, B, and C confined space entry.

c. If the work practice involved in the confined space has the potential to increase existing hazards or generate additional ones, it shall be necessary to frequently evaluate the space to determine if a classification change is warranted.

d. Rescue procedures shall be specifically designed for each entry. If a confined space has an A or B classification, a trained standby person shall be assigned to that confined space with a fully charged, positive pressure, SCBA on hand. Additional duties of the standby person are to maintain unobstructed lifelines and communications to all workers within the confined space until relieved and assured that adequate assistance is present. However, while awaiting rescue personnel, the standby person will make rescue attempts using the lifelines from outside the confined space. Rescue teams entering Class A or B confined spaces shall be equipped with all mentioned safety equipment of the standby person and required life lines.

e. In the event of a Class C confined space rescue, a supplied-air respirator or a self-contained breathing apparatus shall be used. A person summoned, or one who recognizes the need for rescue, shall summon assistance and await their arrival outside the confined space. Respirators and lifelines shall be donned by rescue personnel with necessary equipment for removal of the victim(s).

26-4. Permit System (Class A, B, and C).

a. Entry into a permit-required confined space shall be by permit only. The permit is an authorization and approval in writing that specifies the location and type of work to be done and certifies that all existing hazards have been evaluated by the gas detection monitor and necessary protective measures have been taken to ensure the safety of each worker.

b. The gas detection monitor shall be responsible for completing the permit and shall sign off when the following areas and actions have been reviewed and confirmed:

(1) Location and description of the work to be done (Class A, B, and C).

(2) Hazards that may be encountered (Class A, B, and C).

(3) Complete isolation checklist (Class A, B, and C).

(a) Blanking and/or disconnecting.

(b) Electrical lockout.

(c) Mechanical lockout.

(4) Special clothing and equipment (Class A and B).

(a) Personal protective equipment and clothing.

(b) Safety harness and/or lines.

(c) Tools approved for use based upon the type of hazard present.

(d) Approved electrical equipment.

(5) Atmospheric test readings (Class A, B, and C).

(a) Oxygen level.

(b) Flammability and/or explosive levels.

(c) Toxic substance levels.

(6) Atmospheric monitoring while work is being performed. (Class A on a continuous basis and Class B as determined by the gas detection monitor.)

(7) Personnel training and complete understanding of the hazards (Class A, B, and C).

(8) Standby person(s) as named on the permit (Class A, B, and C).

(9) Emergency procedures and location of first aid equipment (Class A, B, and C).

(10) Confined space classification A, B, and C.

c. Class A and B permits shall carry an expiration time and date valid for one shift only and shall be updated for each shift. Certain Class C permits can be updated annually as long as there is no change during the atmospheric testing.

d. Class A or B confined space permits shall be posted in a conspicuous place, close to the entrance, with a copy on file with the activity. A copy of all permits shall be provided to the ISO.

e. Training requirements of personnel entering and/or working in confined spaces shall be suitable for the nature of the hazard and the work to be performed and will, therefore, vary with the confined space classification. The permit will vary among the different industrial activities.

26-5. Definitions.

a. *Acceptable entry conditions.* The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

b. *Attendant.* An individual stationed outside one or more permit spaces who monitors the authorized entrants and performs all attendant's duties set forth in paragraph 26-10, this regulation.

c. *Authorized entrant.* An employee who is authorized to enter a permit space.

d. *Blanking or blinding.* The absolute closure of a pipe, line, or duct by the fastening of a solid plate that completely covers the bore and is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

e. *Confined space.* A space that entails the following:

(1) Large enough and configured so an employee can bodily enter and perform assigned work.

(2) 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).

(3) Not designed for continuous employee occupancy.

f. *Double block and bleed.* The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

g. *Emergency.* Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

h. Engulfment. The surrounding and effective capture of a person by liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or can exert enough force on the body to cause death by strangulation, constriction, or crushing.

i. *Entry.* The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.

j. *Entry permit* (permit). The written or printed document that is provided by the employer to allow and control entry into a permit space that contains the information specified in paragraph 26-4, this regulation.

k. *Entry supervisor.* The person (i.e., the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned for authorizing entry and overseeing entry operations and for terminating entry as required by this section.

l. *Hazardous atmosphere.* An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (escape unaided from a permit space) from injury or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL.

Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit that is published in the OSHA regulations and could result in employee exposure in excess of its dose or permissible exposure limit.

(5) Any other atmospheric condition that is immediately dangerous to life or health. Air contaminants for which OSHA has not determined a dose or permissible exposure limit; other sources of information, such as MSDSs that comply with the Hazard Communication Standard, 1910.1200; published information; and internal documents can provide guidance in establishing acceptable atmospheric conditions.

m. *Hot work permit.* The employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition).

n. *Immediately dangerous to life or health* (IDLH). Any condition that poses an immediate or delayed threat to life, would cause irreversible adverse health effects, or would interfere with an individual's ability to escape unaided from a permit space.

o. *Inerting.* The displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to an extent that the resulting atmosphere is noncombustible.

Note: This procedure produces an IDLH oxygen-deficient atmosphere.

p. *Isolation.* The process by which a permit space is removed from service and completely protected against the release of energy and material into the space.

q. *Line breaking.* The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material; an inert gas; or any fluid at a volume, pressure, or temperature capable of causing injury.

r. *Non-permit confined space.* A confined space that does not contain, or with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

s. *Permit-required confined space* (permit space). A confined space that has one or more of the following characteristics:

(1) Contains or has a potential to contain a hazardous atmosphere.

(2) Contains a material that has the potential for engulfing an entrant.

(3) Has an internal configuration 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.

(4) Contains any other recognized serious safety or health hazard.

t. *Permit-required confined space program* (permit space program). The employer's overall program for controlling and where appropriate, for protecting employees from permit space hazards and regulating employee entry into permit spaces.

u. *Prohibited condition.* Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

v. *Rescue service.* The personnel designated to rescue employees from permit spaces.

w. *Retrieval system.* The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

x. *Testing.* The process where the hazards, that may confront entrants of a permit space, are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

26-6. Labeling and Posting (Class A, B, and C).

a. In order to prevent inadvertent or unauthorized entry into a confined space, such areas shall be posted where appropriate.

b. Entrances to confined spaces of permanent structures shall be posted as necessary. Signs shall include, but not necessarily be limited to, the following information:

DANGER
CONFINED SPACE
ENTRY BY PERMIT ONLY

c. When a specific work practice is performed or specific safety equipment is necessary, the following statement shall be added, in large letters, to the warning sign:

RESPIRATOR REQUIRED
FOR ENTRY
-
LIFELINE REQUIRED
FOR ENTRY
-
HOT WORK PERMITTED
OR
NO HOT WORK PERMITTED

d. Emergency procedures, including phone numbers of fire department and emergency medical services, shall be posted conspicuously within the immediate area of the confined space or at the phone from which help would be summoned.

e. To prevent unauthorized or inadvertent entries into confined spaces where work is in progress; such areas shall be posted, as warranted, until the operations have been completed. These signs include the following information:

CAUTION
CONFINED SPACE
WORK IN PROGRESS
DO NOT ENTER WITHOUT PROPER AUTHORIZATION

26-7. Procedures for Atmospheric Testing. Atmospheric testing is required to evaluate the hazards of the permit space and verify that acceptable entry conditions for entry into the space are present.

a. Evaluation testing. The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data and development of the entry procedure should be done or reviewed by a technically qualified professional (e.g., OSHA consultation service, certified IH, registered safety engineer, certified safety professional, certified marine chemist etc.,) based on evaluation of all serious hazards.

b. Verification testing. The atmosphere of a permit space which may contain a hazardous atmosphere should be tested for residues of all contaminants identified by evaluation testing using permit-specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.,) should be recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.

c. Duration of testing. Measurement of values for each atmospheric parameter should be made for at least the minimum response time of the test instrument specified by the manufacturer.

d. Testing stratified atmospheres. When monitoring for entries involving a descent into atmospheres that may be stratified (layered), the atmospheric envelope should be tested a distance of approximately 4 feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

e. Order of testing. A test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. Combustible gases are tested next, because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than exposure to toxic gases and vapors. If tests for toxic gases and vapors are necessary, they are performed last.

26-8. Training.

a. The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section. Training shall be provided to each affected employee:

(1) Before the employee is first assigned duties under this section.

(2) Before there is a change in assigned duties.

(3) Whenever there is a change in permit space operations that presents a hazard that an employee has not previously been trained on.

(4) Whenever the employer has reason to believe there are deviations from the permit space entry procedures required, or there are inadequacies in the employee's knowledge or use of these procedures.

b. The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.

c. The employer shall certify the training required by paragraphs 26-8a and b, this regulation, has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

26-9. Duties of Authorized Entrants. The employer shall ensure that all authorized entrants:

a. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

b. Properly use equipment as required by paragraphs 26-4b(4) and 26-12c, this regulation.

c. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and enable the attendant to alert entrants of the need to evacuate the space as required by paragraph 26-10f, this regulation.

d. Alert the attendant whenever the following occurs:

(1) The entrant recognizes any warning signs or symptoms of exposure to a dangerous situation.

(2) The entrant detects a prohibited condition.

e. Exit from the permit space as quickly as possible when the below happens:

(1) An order to evacuate is given by the attendant or the entry supervisor.

(2) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

(3) The entrant detects a prohibited condition.

(4) An evacuation alarm is activated.

26-10. Duties of Attendants. The employer shall ensure that each attendant complies with the following:

a. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

b. Aware of possible behavioral effects of hazard exposure in authorized entrants.

c. Continuously maintains an accurate count of authorized entrants in the permit space and ensures the means used to identify authorized entrants accurately identifies who is in the permit space.

d. Remains outside the permit space during entry operations until relieved by another attendant.

Note: When the employer's permit entry program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations as required by paragraph 26-12a, this regulation, and if they have been relieved as required by paragraph 26-10d, this regulation.

e. Communicates with authorized entrants as necessary to monitor entrant status and alert entrants of the need to evacuate the space under paragraph 26-10f, this regulation.

f. Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

(1) The attendant detects a prohibited condition.

(2) The attendant detects the behavioral effects of hazard exposure in an authorized entrant.

(3) The attendant detects a situation outside the space that could endanger the authorized entrants.

(4) If the attendant cannot effectively and safely perform all the duties required under paragraph 26-10, this regulation.

g. Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.

h. Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

(1) Warn the unauthorized persons that they must stay away from the permit space.

(2) Advise the unauthorized persons that they must exit immediately, if they have entered the permit space.

(3) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

i. Performs non-entry rescues as specified by the employer's rescue procedure.

j. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

26-11. Duties of Entry Supervisors. The employer shall ensure that each entry supervisor is responsible for the following:

a. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

b. Verifies by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

c. Terminates the entry and cancels the permit as required.

d. Verifies that rescue services are available and the means for summoning them are operable.

e. Removes unauthorized individuals who enter or attempt to enter the permit space during entry operations.

f. Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

26-12. Rescue and Emergency Service.

a. The following requirements apply to employers who have employees entering permit spaces to perform rescue services.

(1) The employer shall ensure that each member of the rescue service is provided and trained on how to properly use the PPE and rescue equipment necessary for making rescues from permit spaces.

(2) Each member of the rescue service shall be trained to perform the assigned rescue duties. Each member of the rescue service shall also receive the training required of authorized entrants under paragraph 26-8, this regulation.

(3) Each member of the rescue service shall practice making permit space rescues at least once every 12 months by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the permit spaces or from representative permit spaces. Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces where rescue is to be performed.

(4) Each member of the rescue service shall be trained in basic first-aid and cardiopulmonary resuscitation (CPR). At least one member of the rescue service holding current certification in first aid and in CPR shall be available.

b. When an employer (host employer) arranges to have individuals other than the host employer's employees perform permit space rescue, the host employer shall comply with the following:

(1) Inform the rescue service of the hazards they may confront when requested to perform rescue at the host employer's facility.

(2) Provide the rescue service with access to all permit spaces where rescue may be necessary so the rescue service can develop appropriate rescue plans and practice rescue operations.

c. To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

(1) Each authorized entrant shall use a chest or full body harness with a retrieval line attached at the center of the entrant's back, near shoulder level, or above the entrant's head. Wristlets may be used in lieu of the chest or full body harness if the employer can demonstrate the use of a chest or full body harness is infeasible or creates a greater hazard and use of wristlets is the safest and most effective alternative.

(2) The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical-type permit spaces more than 5 feet (1.52 m) deep.

d. If an injured entrant is exposed to a substance for which a MSDS or other similar written information is required to be kept at the worksite, that MSDS or written information shall be made available to the medical facility treating the exposed entrant.

Chapter 27
Fall Protection Program

27-1. General.

a. One of the most common causes of injury to Soldiers and civilians in a shop environment is falls, slips, and trips from the same surface or from an elevated surface. Army regulation 385-10 and 29CFR1910, require Army leaders to develop fall protection guidelines for their organizations. All units, shops, or activities that conduct maintenance on any make or model of vehicle or aircraft above a height of 4 feet must have a fall protection program in place.

b. All units, shops, or activities that conduct vehicle maintenance on any make or model of vehicle or aircraft above a height of 4 feet must have a fall protection program in place.

c. All units, shops, or activities that conduct construction type maintenance on any structure above a height of 6 feet must have a fall protection program in place.

d. Maintenance shops, offices, and other locations occupied by personnel must ensure work surfaces and floors are kept clear of obstacles not required for any given task.

(1) File boxes, shipping boxes, trash cans, and obstacles must not be maintained in walk ways or along escape routes that interfere with normal human traffic.

(2) Electrical cords should be minimized to prevent circuit overload. When required to cross a normal walk way, electrical cords must be protected from crushing and secured to the floor to prevent trip hazards.

(3) Work areas in shops or around structures under construction or repair must be kept free of unnecessary tools, parts, or other equipment.

(4) Tools not required for the immediate task must be placed back in the tool box. Special tools not required must be returned to the tool room.

(5) Floors must be kept free of excess dirt, rocks, mud, and other natural debris that may be tracked in. Liquid or air hoses required for the task must lay flat on the floor.

e. Ladder safety.

(1) Workers will inspect ladders prior to use to ensure it is of sound condition and is rated to bear the intended load.

(2) When using step ladders with more than five rungs, another worker must be within 10 feet of the ladder to provide emergency assistance.

(3) Ladders used to access the top of a roof must extend at least three rungs above the eave. Another worker will remain on the ground at the bottom of the ladder to ensure it remains stable while the worker on the ladder is climbing up or down.

27-2. Sample Fall Protection Program

a. A sample fall protection program may be found in the Leader's Guide: Fall Protection Program and is furnished at Appendix H of this regulation. The Leader's Guide may be found at https://crc.army.mil/guidance/best_practices/LEADERGUIDE-FP04.pdf.

b. The methods used to ensure workers are protected against falls is discretionary as long as the worker is protected by rails and kick plates, or is secured by lanyard and inertia reel of some kind (see the Leader's Guide referenced above).

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Appendix A
Required and Related Publications

AR 11-34, The Army Respiratory Protection Program, 15 February 1990.

AR 15-6, Procedures for Investigating Officers and Boards of Officers, 2 October 2006.

AR 40-5, Preventive Medicine, 25 May 2007.

AR 40-66, Medical Record Administration and Health Care Documentation, 17 June 2008.

AR 55-80, DOD Transportation Engineering Program, 17 November 2003.

AR 55-162, Permits for Oversize, Overweight, or Other Special Military Movements on Public Highways in the United States, 1 January 1979.

AR 195-2, Criminal Investigation Activities, 15 May 2009.

AR 385-10, Army Safety Program, 23 August 2007 (with RAR 001, 7 November 2008).

AR 385-63, Range Safety, 19 May 2003.

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Appendix B

BLEACHER INSPECTION CHECKLIST

For use of this form, see Fort Knox Reg 385-10.

UNIT:	DATE:
BLEACHER ID #:	LOCATION:

	YES	NO
1. General:		
a. Are the bleachers on level ground?		
b. Are the bleachers leaning to one side?		
c. When walking on the bleachers, do they feel unstable in any way?		
2. Structural supports		
a. Are there any signs of corrosion or rust?		
b. Are there any damaged, loose, or missing cross braces?		
c. Do any braces protrude past the bench seat edges?		
d. Are any welds cracked?		
3. Seat and foot boards		
a. Do seat and foot boards protrude over 20 inches from end of frames?		
b. Are all seat and foot boards present and securely fastened?		
c. Are all nuts and bolts present and tight?		
d. Are any seat and foot boards abnormally bowed?		
e. Are seat and foot boards splintered, cracked, or termite and insect infested?		
4. Are bleachers four or more risers high equipped with standard handrails?		
5. If no handrail, is the top seat and a 4 inch strip on open sides of bleacher painted yellow?		

INSPECTOR'S PRINTED NAME:

DUTY POSITION:

SIGNATURE:

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Appendix C

POV INSPECTION CHECKLIST

For use of this form, see Fort Knox Reg 385-10

OWNER/OPERATOR'S NAME: _____

UNIT: _____ DUTY PHONE: _____

YEAR/TYPE VEHICLE: _____ MILEAGE: _____

ITEM	SAT	UNSAT	REMARKS
1. LIGHTS			
a. Headlights	☐	☐	
b. Taillights	☐	☐	
c. Backing lights	☐	☐	
d. Emergency flashers	☐	☐	
e. Turn signal indicators	☐	☐	
f. Brake lights	☐	☐	
2. GLASS			
a. Windshield	☐	☐	
b. Rear window	☐	☐	
c. Rear-view mirror	☐	☐	
3. EXHAUST SYSTEM	☐	☐	
4. WINDSHIELD WIPERS/WASHERS	☐	☐	
5. HORN	☐	☐	
6. STEERING SYSTEM	☐	☐	
7. BRAKE SYSTEM			
a. Driving brakes	☐		
b. Emergency brake	☐		
8. TIRES (including spare and changing equipment)	☐	☐	
9. SUSPENSION SYSTEM/SHOCK ABSORBERS/SPRINGS	☐	☐	
OVERALL RATING	☐	☐	

COMMENTS

FK FORM 4650-E, AUG 2007 PREVIOUS EDITIONS ARE OBSOLETE. Page 1 of 2 FKPE V1.00 ES

1. PRIVATELY OWNED VEHICLE (4-WHEEL)

	YES	NO
a. Valid Driver's License	____	____
b. Valid State Registration	____	____
c. Proof of Insurance	____	____
d. Successfully completed AAC	____	____
e. Safety Belts Present and Operational	____	____
f. Is this the only vehicle you own?	____	____
g. (Only if Item 1f is NO) Is this the vehicle you intend to drive during the holiday period?	____	____

2. PRIVATELY OWNED VEHICLE (2-WHEEL)

a. Valid Operator's License	____	____
b. Valid State Registration	____	____
c. Proof of Insurance	____	____
d. Successfully completed AMSC	____	____
e. Helmet, DOT Approved	____	____
f. Safety Gear: Eye Protection, Full-fingered gloves, long trousers, long-sleeved shirt or jacket, high-visibility garmets (bright color for day and retro-reflective for night), leather boots or over-the-ankle shoes	____	____
g Is this the only vehicle you own?	____	____
h. (Only if Item 2g is NO) Is this the vehicle you intend to drive during the holiday period?	____	____

DATE INSPECTED: _____ INSPECTOR: _____

COMMENTS:

FK FORM 4650-E, MAR 06 (Back)

COMPOSITE RISK MANAGEMENT WORKSHEET

For use of this form, see FM 5-19; the proponent agency is TRADOC

1 MSN/TASK	2a. DTG BEGIN	2b. DTG END	3 DATE PREPARED *(YYYYMMDD)*

4 PREPARED BY

a LAST NAME	b. RANK	c. POSITION

5. SUBTASK	6 HAZARDS	7 INITIAL RISK LEVEL	8. CONTROLS	9 RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11 HOW TO SUPERVISE (WHO)	12 WAS CONTROL EFFECTIVE?

Additional space for entries in Items 5 through 11 is provided on Page 2.

13 OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED *(Check one)*

☐ LOW ☐ MODERATE ☐ HIGH ☐ EXTREMELY HIGH

14 RISK DECISION AUTHORITY

a. LAST NAME	b. RANK	c DUTY POSITION	d. SIGNATURE

DA FORM 7566, APR 2005

APD PE v2.02ES

ITEMS 5 THROUGH 12 CONTINUED:

5. SUBTASK	6. HAZARDS	7 INITIAL RISK LEVEL	8 CONTROLS	9. RESIDUAL RISK LEVEL	10 HOW TO IMPLEMENT	11 HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFEC-TIVE?

DA FORM 7566, APR 2005

Page 2 of 2

APD PE v2 01ES

Fort Knox Reg 385-10 (20 Jul 09)

Appendix E

RESPIRATORY PROTECTION REQUEST

For use of this form, see AR 11-34

SECTION I. (COMPLETED BY SUPERVISOR)

NAME OF USER	GRADE & SER 55	JOB TITLE

ACTIVITY/DIVISION & BLDG. NO	SSAN

DESCRIPTION/TYPE OF WORK BEING DONE

SUPERVISOR'S SIGNATURE	PHONE	DATE

SECTION II. (COMPLETED BY INDUSTRIAL HYGIENE SECTION, MEDDAC)

ASSESSMENT OF EXPOSURE POTENTIAL

RECOMMENDED PROTECTION

- ☐ Half-face Air Purifying
- ☐ Powered Air Purifying (PAPR)
- ☐ Self-contained Breathing Apparatus (SCBA)
- ☐ Other (Describe): _____
- ☐ Negative Air Purifying
- ☐ Full-face Air Purifying
- ☐ Supplied Air
- ☐ CSLI - Recommended change _____ hours

INDUSTRIAL HYGIENIST'S SIGNATURE	DATE

SECTION III. (COMPLETED BY OCCUPATIONAL HEALTH, MEDDAC)

Class (check one):

- ☐ No restriction on respirator use
- ☐ Specific use restrictions (see below).
- ☐ No respirator use is permitted.

Restriction: _____

EVALUATING PHYSICIAN'S SIGNATURE	DATE

SECTION IV. (COMPLETED BY INSTALLATION RESPIRATORY ADMINISTRATOR)

Type of Respirator Issued

Manufacturer: _____

Model No: _____

- ☐ Self-contained
- ☐ Negative Pressure
- ☐ Powered Air Purifying

I certify that training has included instruction and practice in leak test, adjustments, visual inspections, hazards involved, disinfection and storage principles in accordance with 29 CFR 1910.134.

RESPIRATOR ADMINISTRATOR'S SIGNATURE	DATE

SECTION V. (EMPLOYEE'S STATEMENT)

I am aware that in addition to fit-testing by a competent individual, I must:

a. Fit-test my respirator prior to each use.

b. Report any improper fit, damage or defect to my supervisor.

c. Not wear an ill-fitted or defective respirator, and

d. Request a new fit test if there is any change in face configuration (e.g., weight loss, etc.).

EMPLOYEE'S SIGNATURE	DATE

FK FORM 3149-R-E, FEB 2005 REPLACES ATZK-S FORM 3149-R-E, JUL 89 WHICH IS OBSOLETE. FK PREVIOUS

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Appendix F

CONFINED SPACE CLASSIFICATION TABLE

PARAMETERS	CLASS A	CLASS B	CLASS C
CHARACTERISTICS	Immediately dangerous to life - Rescue procedures require the entry of more than one individual fully equipped with life support equipment - maintenance of communication requires an additional standby person stationed within the confined space.	Dangerous, but not immediately life threatening - Rescue procedures require the entry on no more than one individual fully equipped with life support equipment. Indirect visual or auditory communication with workers.	Potential hazard requires no modification of work procedures. Use standard rescue procedures. Maintain direct communication between workers inside the confined space with outside workers.
OXYGEN	16% or less	16.1% to 19.4%	19.5% to 21%
FLAMMABILITY CHARACTERISTICS	20% or greater of LEL*	10% go 19% LEL	Less than 10% LEL
TOXICITY	IDLH	Greater than contamination level referenced in 29 CFR 1910, Subpart Z, but less than IDLH	Less than contamination level referenced in 29 CFR 1910, Subpart Z.

* IDLH - Immediately Dangerous to Life or Health
LEL - Lower Explosive Limit

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Appendix G

CHECKLIST OF CONSIDERATIONS FOR ENTRY, WORKING IN AND EXITING CONFINED SPACE

ITEM	CLASS A	CLASS B	CLASS C
Permit	X	X	X
Atmospheric Testing	X	X	X
Monitoring	X	O	O
Medical Surveillance	X	O	O
Training of Personnel	X	X	X
Labeling and Posting	X	X	X
Preparation			
Initial plan	X	X	X
Standby	X	X	O
Communication/observation	X	X	X
Rescue	X	X	X
Work	X	X	X
Safety Equipment and Clothing			
Head Protection	O	O	O
Hearing Protection	O	O	O
Hand Protection	O	O	O
Foot Protection	O	O	O
Body Protection	O	O	O
Respiratory Protection	O	O	
Safety Belts	X	X	O
Life lines, harness	X	O	
Rescue Equipment	X	X	X
Recordkeeping/Exposure	X	X	

X - Indicates requirement
O - Indicates determination is made by the gas detection monitor

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Appendix H
Sample Fall Protection Program

(Extract of Leader's Guide: Fall Protection)

APPENDIX "C"
SAMPLE FALL-PROTECTION PROGRAM

1. References.

a. DODI 6055.1, Safety and Occupational Health Program (19 Aug 98)

b. AR 385-10, The Army Safety Program (29 Feb 00)

c. 29 CFR 1910, General Industry Standard

d. 29 CFR 1926, Construction Standard

e. USACE Manual EM 385-1-1

2. Purpose. To provide policy and guidance for the implementation of ***(Command name)*** Fall Protection Program.

3. Background. Falls from elevation are one of the leading causes of injuries and fatalities in the workplace. Each year, thousands of workers suffer injuries due to falls, resulting in lost work time. Reference (b) above directs adoption of OSHA standards as Army safety standards, applicable in Army workplaces. These workplaces are typically comparable to the private sector. As such, activities will be required to establish fall protection programs that include identification and elimination of fall hazards, whenever practical, through engineering controls, training for personnel, proper installation and use of fall protection systems, and required rescue equipment and procedures.

4. Command Policy. A Fall Protection Program will be implemented for ***(Name of Command)*** in accordance with requirements of the applicable standards and regulations. This instruction will be utilized as the primary guide for the protection of workers exposed to fall hazards. Whenever performance of any task would allow a worker to fall a distance of four feet or more to a lower level, the hazard shall be identified, evaluated, and controlled. The worker shall receive adequate training as required, and shall be protected from falling. Refer to references (c) (d) and (e) above for appropriate regulatory guidance.

5. Responsibilities.

a. The Fall Protection Program Manager shall:

(1) Ensure that the designated Competent Persons and Qualified Persons receive adequate training commensurate with their duties within the fall protection program.

(2) Ensure that all workers, including contractors and subcontractors, are protected from falling to a lower level at all times.

(3) Set the guidelines for the Safety Office to implement and maintain the command policies and the fall protection program.

(4) Establish that all personnel, contractors, and subcontractors shall abide by the requirements of the fall protection program.

(5) Ensure that all personnel exposed to fall hazards, and those who are involved in the implementation of the fall-protection program, have been adequately trained.

(6) Ensure that the investigation and reporting of a fall mishap comply with the requirements set forth in AR 385-10, Accident Reporting and Records.

(7) Ensure that fall hazard assessments and surveys have been completed.

(8) Ensure that fall protection and prevention plans, rescue, and escape plans are adequately prepared and used.

b. Qualified Person (QP) Shall: ***(See the QP duties and responsibilities addressed under Section III, Responsibilities, this guide. Include additional duties and responsibilities as required).***

c. Competent Person (CP) Shall***: (See the CP duties and responsibilities addressed under Section III, Responsibilities, this guide. Include additional duties and responsibilities as required).***

d. Authorized Person Shall:

(1) Not work in any fall hazard area without being adequately trained, and then only after the Competent Person has authorized him/her to proceed with the type of work to be performed.

(2) Be adequately trained in the fall protection equipment selection, use, rescue, storage and maintenance.

(3) Not work in any fall hazard area without first reviewing and fully understanding the FP &P Plan and Rescue and Evacuation Plan.

(4) Not proceed with work assignments without having the proper fall protection equipment and/or systems.

(5) Include any additional duties as required.

e. Other positions as required: ***(Identify responsibilities as appropriate).***

6. Workplace Assessments/Surveys.

a. Surveys of the work areas shall identify all fall hazards that exist at a specific location within buildings and facilities. This information will be used by the Fall Protection Program Manager or the Qualified Person (QP) for fall hazard elimination and/or protection of authorized persons from falling while performing various work tasks. The survey will provide pertinent information as to the type of fall hazard that will be encountered. All hazards shall be evaluated in accordance with references (c) (d) and (e) above, as appropriate. This evaluation will enable the program manager/QP to develop solutions to those hazards that present the greatest risk of exposure and potential for injury.

b. A team consisting of Authorized Users and the CP will conduct an assessment of workplace hazards.

7. Fall Hazard Prevention and Control (Site Specific):

a. Regarding the proper order of control measures and solutions to fall hazards and project hierarchy and desirability, the QP should consider the order of control measures specified in Section I, Introduction, this guide.

b. For System Design Requirements, see Section X, Fall Protection System Design Requirements, this guide.

c. For preparation of the Fall Protection and Prevention Plan (FP&PP), see Section IX, Fall Protection and Prevention (FP&P) Plans & Rescue and Evacuation Plans (REP), this guide.

8. Education and Training Requirements.

a. Fall-Protection Training Requirements for:

(1) Authorized Person: Training will include the following: hands-on training on the safe use and limitations of the equipment, nature of fall hazards, application limits, and proper anchoring and tie-off techniques. It will also include estimation of free-fall distance, deceleration distance and total fall distance; methods of inspection, storage, and care of the equipment and systems, familiarity with the applicable fall-protection regulations and standards, and rescue/self rescue techniques. The authorized person will receive a minimum of 16 hours of training, or as appropriate.

(2) Competent Person: In addition to the above-authorized person (end user), the Competent Person (CP) will require more stringent, detailed training requirements. Training will include different types of fall-protection systems, hazard ranking systems and risk assessment, and various fall arrest/restraint and positioning systems; inspection and record keeping of fall-arrest equipment, inspection and identification of fall hazards, and installation and inspection of proper anchoring and tie-off points. CP will receive 40 hours of training or as appropriate.

(3) Qualified Person: In addition to the above CP training, the qualified person (QP) will be trained on how to design, select, certify, evaluate, and analyze fall-protection systems. The duration of the training is 40 hours, or as appropriate.

(4) Contracting Officer/Contracting Officer Representative Personnel: These personnel will receive awareness training.

(5) Architects and Engineers: These personnel will receive awareness training. Note: For additional personnel training, see Section IV, Training Requirements, this guide.

9. Audits and Program Evaluation. The FP program shall be evaluated periodically to determine the success of the program. The program manager shall collect and compare fall mishap data and near misses in order to compare this data to establish metrics. Other metrics may be included as required.

10. Inspection, Storage, Care, and Maintenance of Equipment. See Section VII, Inspection, Maintenance, Storage, and Care Procedures for Fall Protective Equipment, this guide.

11. Rescue Systems/Plans. See Section IX, Fall Protection and Prevention (FP&P) Plans & Rescue and Evacuation Plans (REP), and Appendix B, Form 1-1, this guide.

Appendix I
Abbreviations and Acronyms

AAC	Accident Avoidance Class
AAR	After Action Review
ACH	Army Combat Helmet
ACU	Army Combat Uniform
ACV	Army Combat Vehicles
AG	Adjutant General
AGAR	Abbreviated Ground Accident Report
ALARA	As Low As Is Reasonably Achievable
AMV	Army Motor Vehicle
ARSO	Alternate Radiation Safety Officer
ASAP	As Soon As Possible
ASO	Aviation Safety Officers
ASP	Ammunition Supply Point
ATV	All Terrain Vehicles
CAIG	Centralized Accident Investigation, Ground
CCMCK	Close Combat Mission Capabilities Kit
CFR	Code of Federal Regulations
CG	Commanding General
CID	Criminal Investigation Division
CO	Carbon Monoxide
CofS	Chief of Staff
COP	Continuation of Pay
COR	Contracting Officer's Representative
CPAC	Civilian Personnel Advisory Center
CRM	Composite Risk Management
CUCV	Commercial Utility Cargo Vehicle
CVC	Combat Vehicle Crewman
DA	Department of the Army
DAITM	Department of the Army Investigative Team for Malfunctions
DCG	Deputy Commanding General
DDESB	Department of Defense Explosives Safety Board
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
DOL	Directorate of Logistics
DOT	Department of Transportation
DPW	Directorate of Public Works
DFMWR	Directorate of Family and Morale, Welfare and Recreation
DPTMS	Directorate of Plans, Training, Mobilization, and Security
DPW	Directorate of Public Works
DRM	Directorate of Resource Management
DTDCD-E	Directorate of Training, Doctrine, Combat Development, and Experimentation
ECOD	Estimated Cost of Damage

EIR	Equipment Improvement Report
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
F	Fahrenheit
FECA	Federal Employees' Compensation Act
FOD	Foreign Object Damage
FRB	Fatality Review Board
FTX	Field Training Exercise
GC	Garrison Commander
GSA	General Services Administration
HAZCOM	Hazard Communication
HBV	Hepatitis B Virus
HCC	Hearing Conservation Center
HCP	Hazard Communication Program
HHIM	Health Hazard Inventory Module
HIV	Human Immunodeficiency Virus
HMMWV	High-Mobility Multipurpose Wheeled Vehicle
IASO	Installation Aviation Safety Officer
IAW	In Accordance With
IDLH	Immediately Dangerous to Life or Health
IH	Industrial Hygienist
IMCOM	Installation Management Command
IOC	Installation Operations Center
IRCC	Installation Radiation Control Committee
IRPD	Installation Respiratory Program Director
IRS	Installation Respiratory Specialist
IRSO	Installation Radiation Safety Officer
ISO	Installation Safety Office
JHA	Job Hazard Analysis
KH	Kevlar Helmet
LAR	Logistics Assistance Representative
LBE	Load Bearing Equipment
LD	Line of Duty
LEC/PM	Law Enforcement Command/Provost Marshal
LML	Lower Flammable Limit
MASA	Muldraugh Ammunition Storage Area
MEDDAC	Medical Department Activity
MGSS	Machine Gun Simulations Systems
MICC	Mission and Installation Contracting Command
MOS	Military Occupational Specialty
MOUT	Military Operations on Urbanized Terrain
MP	Military Police
MSDS	Material Safety Data Sheet
MTF	Medical Treatment Facility
NCOER	Noncommissioned Officer Evaluation Report

NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
NVG	Night Vision Goggle
OER	Officer Evaluation Report
OF	Optional Form
OH	Occupational Health
OHN	Occupational Health Nurse
OHS	Occupational Health Service
OPIM	Other Potentially Infectious Material
OPM	Office of Personnel Management
ORV	Off-Road Vehicles
OSHA	Occupational Safety and Health Act
PCE	Protective Clothing and Equipment
PCS	Permanent Change of Station
PMCS	Preventive Maintenance Checks and Services
PMS	Preventive Medicine Service
POC	Point of Contact
POI	Program of Instruction
POV	Privately Owned Vehicle
PPE	Personal Protective Equipment
QASAS	Quality Assurance Specialist, Ammunition, Surveillance
QDR	Quality Deficiency Report
RAWL	Rotating Amber Warning Lights
RPE	Respiratory Protective Equipment
RPO	Radiation Protection Officer
RPP	Respiratory Protection Program
RSO	Radiation Safety Officer
SASOHI	Standard Army Safety and Occupational Health Inspection
SCBA	Self-Contained Breathing Apparatus
SD	Safety Director
SF	Standard Form
SOH	Safety and Occupational Health
SOP	Standing Operating Procedure
T-CLOCS	Tires and Wheels, Controls, Lights and Electrical, Oil and Fluids, Chassis and Sidestand
TC	Track Commander
TCI	Tank Crew Instructors
TDY	Temporary Duty
TMP	Transportation Motor Pool
TRADOC	Training and Doctrine Command
TSP	Training Support Package
UCMJ	Uniform Code of Military Justice
ULLS	Unit Level Logistics System
URSO	Unit Radiation Safety Officer
USAARMC	US Army Armor Center
USAARMS	US Army Armor School

USACRC	US Army Combat Readiness Center
USC	United States Code
VC	Vehicle Commander