

Safety

THE FORT KNOX SAFETY PROGRAM

**Summary.** This regulation provides new policy on Army Safety management procedures with special emphases on responsibilities and organizational concepts. It implements requirements of the Occupational Safety and Health Act of 1970 (OSH Act) as implemented in Executive Order 12196; part 1960, title 29, code of Federal Regulations (CFRs); Department Of Defense (DOD) Directive 1000.3 and DOD

**Applicability.** This regulation applies to all USAARMC and Fort Knox major activities, directorates, staff offices/departments, Fort Knox Partners in Excellence, and U.S. Army Reserve and National Guard Units supported by the Armor Branch Safety Office (ABSO).

**Suggested Improvements.** The proponent of this regulation is the ABSO. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, USAARMC and Fort Knox, ATTN: ATZK-S, Fort Knox, Kentucky 40121-5000

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\*This regulation supersedes USAARMC Reg 385-1, 28 Nov 90; USAARMC Reg 385-2, 12 Dec 94; USAARMC Reg 385-3, 25 Sep 91; USAARMC Reg 385-4, 12 Oct 93; Fort Knox Reg 385-5, 5 Jan 98; and Fort Knox Reg 385-10, 13 March 1998.

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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 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 risk management process, training, education, and aggressive leadership. Fort Knox 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 risk management process, as specified in chapter 21 of 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 so as not to endanger or compromise public health and safety.

(5) Appropriate action 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 enlisted evaluation reports (EERs) in accordance with DODI 6055.1 DOD Safety and Occupational Health (SOH) Program.

#### **1-4. Responsibilities**

a. The Commanding General exercises overall staff responsibility for the USAARMC and Fort Knox Accident Prevention Program. The USAARMC and Fort Knox Safety Manager acts for the Commanding General in discharging this responsibility.

b. The Armor Branch Safety Office (ABSO) will:

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

(2) Provide for the establishment and implementation of plans, policies, and procedures for conducting safety programs at all levels of command. 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 investigation 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 safe 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, military services, along with Federal and civilian agencies in all relevant safety matters.

(10) Conduct surveys and inspections of activities to include review of accident prevention programs.

- (11) Conduct Standard Army Safety and Occupational Health Inspections 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, Bloodborne Pathogen, Risk Management, Ergonomics, Radiation Protection, and Respiratory Protection Programs.
  - (14) Develop recommendations for corrective measures where 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 U.S. Army Medical Department Activity (MEDDAC), to identify and abate existing or potential occupational health hazards in the workplace.
  - (17) Publicize channels for reporting unsafe or unhealthful conditions.
  - (18) Convene the Command Safety Council quarterly or as directed by the Commanding General.
  - (19) Fulfill and comply with labor management relations responsibilities regarding consultation, negotiation, union/management agreements, and applicable laws, rules, and government-wide regulation.
  - (20) Develop a comprehensive safety-training program for additional duty safety personnel, which will ensure competence in carrying out their duties. Ensure this program is taught.
  - (21) Provide safety support for range and training complex activities.
- c. Directorate of Base Operations Support (DBOS) will:
- (1) Coordinate DA Forms 4283 (Facilities Engineering Work Requests) with the ABSO for identification of safety deficiencies.
  - (2) Consolidate deficiencies, where correction exceeds local capability, into projects for Department of the Army funding.
  - (3) Establish internal procedures to assure work requests identified by ABSO as imminently dangerous are corrected immediately.
  - (4) Provide the ABSO a quarterly status report (Installation Occupational Safety and Health Act (OSHA) Abatement Plan) of safety deficiency abatement status.

(5) Assure coordination with the ABSO in the design, construction, and renovation of new or existing facilities to ensure compliance with OSHA 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 ABSO with Fire Incident Reports.

(8) Provide the ABSO with Estimated Cost of Damage (ECOD) reports on all equipment and vehicles involved in accidents.

(9) Ensure that DD Form 1348-6 (DOD's Single Line Item Requisition System Document) or DA Form 3953 (Purchase Request and Commitment) or equivalent electronic PR Web request for all hazardous chemicals or materials include the required information per AR 700-141.

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

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

(2) Coordinate all range waivers with ABSO.

(3) Ensure that 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 ABSO.

(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 that ABSO is involved from the inception in all range construction, renovations, modernizations, or modifications.

e. Commander, Law Enforcement Command/Provost Marshal (LEC/PM) will:

(1) Support ABSO investigations to include providing necessary reports. (See Chapter 3)

(2) Assist in correcting potential traffic hazards.

(3) Provide ABSO with a daily summary of accident information collected through Military Police (MP) channels, e.g., MP blotters and traffic accident reports.

f. U.S. Army MEDDAC, Fort Knox, will:

(1) Upon request from the ABSO, 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 on Admissions and Disposition Sheets and provide the ABSO a copy daily.

(3) Coordinate with the ABSO 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:

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

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

(3) Consult with ABSO 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 ABSO.

(5) Provide the ABSO quarterly information regarding lost time FECA claims and Continuation of Pay (COP) costs.

h. Directorate of Contracting (DOC) will:

(1) Require safety plans and risk assessment with commercial contracts for review and approval by ABSO.

(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 ABSO, DBOS inspectors, Contracting Officer's Representative (COR), and contract administrators.

(4) Include in each contract or purchase order (that identifies hazardous material is involved) a requirement for the supplier to include with each shipment a copy of the applicable Material Safety Data Sheet (MSDS).

(5) Coordinate any additional procedures with ABSO that are necessary to ensure using activities have access to the MSDS.

(6) Inform the Installation Radiation Safety Officer (IRSO) at ABSO whenever contractor equipment containing radioactive material is brought on the installation.

i. Directorate of Resource Management (DRM) will provide the ABSO a copy of the Civilian Personnel Strength report monthly.

j. Commanders and directors will:

(1) Act as Safety Officers for their unit, directorate, or activity. Safety Officers will be appointed in writing.

(2) Appoint additional duty safety personnel to accomplish assigned duties and responsibilities. Individual must have at least 1-year retainability in the unit. In troop units, the safety officer will be a commissioned officer at battalion/squadron or higher unit level, and a Staff Sergeant (E-6) or higher at company/troop level. ABSO 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, to which the employee may be exposed, the requirement for wearing specific items of personal Protective Clothing and Equipment (PCE), and other unique safety requirements.

(5) Establish procedures to ensure that personnel at all management and supervisory levels, who have safety-related tasks associated with their jobs, are identified and that 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. Assure 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. Establish specific written safety goals for their organization.

(8) Include safety objectives in all civilian supervisors performance plans, enlisted efficiency reports, and officer evaluation reports.

(9) Arrange to receive a safety orientation from the ABSO within 14 days of assignment to a unit or directorate.

(10) Submit copies of publications implementing and supporting the safety program to the ABSO, ATTN: ATZK-S. Examples are:

(a) SOPs signed by current commander or director.

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

(c) Minutes of unit safety council meetings.

(11) Identify and eliminate hazardous conditions, establish safe practices and procedures consistent with the mission, 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.

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

(15) Require timely reporting of accidents as required in AR 385-40 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.

k. Directors and Commanders of organizations that are primarily administrative in nature with no extremely high, high or moderate risk activities (e.g., IG, TDCD, etc) will:

(1) Use this regulation as their safety SOP.

(2) Appoint a Safety Officer/NCO in writing.

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

(4) Not be 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.

(7) Not be required to have a radiation SOP.

(8) Not be 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 POVs belonging to military personnel before all holiday weekends, TDY travel, PCS moves, and vacation trips; use Fort Knox Form 4650-E, 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.

1. Supervisors will:

(1) Perform a Risk Assessment/Job Hazard Analysis (JHA) 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. Assure 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 ABSO for assistance in correction. Where DBOS support will correct such deficiencies, prepare DA Form 4283 (Facilities Engineering Work Request) and forward through ABSO to DBOS.

(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 safety and occupational health 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 the Medical Treatment Facility. When light duty is not available, the next higher employing echelon will attempt to find such duty.

m. Additional Duty Safety Officers and NCOs will:

(1) Complete the Additional Duty Safety Officer/NCO course within 90 days of appointment.

(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 to new or varied operations.

(5) Coordinate with supervisors to provide technical assistance to eliminate 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, 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 the 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.

n. 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 Investigation of Army Accidents**

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

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 document, DA Form 285 (U.S. Army Accident Investigation Report), DA Form 285-AB-R (U.S. Army Abbreviated Ground Accident Report (AGAR) and AR 385-40. These reports may include DA Form 285, DA Form 285-AB-R, Department of Labor Forms CA-1 (Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation), CA-2 (Federal Employee's Notice of Occupational Disease and Claim for Compensation), and CA-16 (Authorization for Examination and/or Treatment). DA Form 285 or DA Form 285-AB-R will be forwarded to the ABSO not later than 7 working days following the date of the accident. Reports will be reviewed at each level of the unit, directorate, and activity chain-of-command. Unit commanders or supervisors will indicate review by signing block 66c of DA Form 285, or block 41a of DA Form 285-AB-R. Individuals in the chain of command will review the DA Form 285 and sign in blocks 67b, 68b, and 69b or sign in block 42b of the DA Form 285-AB-R, as appropriate.

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

(1) DA Form 285 will be used only for reporting Class A and B on-duty ground accidents. 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 that results in lost time from work beyond the day or shift on which it occurred, the unit to which the Soldier is assigned will submit a completed DA Form 285-AB-R to the ABSO.

d. Reporting of military off-duty injuries. When the injury 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 ABSO. 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 ABSO. 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 determination.

(1) On-Duty Status. This applies to Army personnel who are:

(a) Physically present at any location where they are to 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. This applies to Army personnel who are not in an on-duty status, whether on or off Army installations.

g. Civilian Injuries. In order to reduce the danger of injury in the workplace and the cost associated with these injuries, reporting procedures will be per current union/management agreements.

h. Property or Vehicle Damage Accidents. The owning unit will submit a fully completed DA Form 285-AB-R through channels to the ABSO for accidents 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 the 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 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 when they 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. Mileage Report.** DBOS Transportation Motor Pool (TMP) will provide a monthly report of miles driven by GSA vehicles to the ABSO.

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## **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, U.S. Army Training and Doctrine Command (TRADOC) will be investigated by a CAIG investigation board appointed locally or from the U.S. Army Safety Center.

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; 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) except when an accident is investigated by the U.S. Army Safety Center (USASC). 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 according to AR 385-40 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 ABSO NLT 30 days from the date of the accident. A format for appointment orders of CAIG boards is at Figure 3-1. The board's written report will be kept confidential.

**Figure 3-1**

(Office Symbol) (File Number)

(Date)

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Duty Appointment

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

President - (Name, Rank/Grade, SSN, and Organization)

Recorder - (Name, Rank/Grade, SSN, and Organization)

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

2. Authority: AR 385-40.

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.

FOR THE COMMANDER:

(signature)

(signature block)

### 3-3. Responsibilities

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

(1) Immediately notify the Military Police Desk Sergeant at 911, 624-2111, or 624-2112, after which the ABSO will be notified during regular duty hours and the USAARMC Staff Duty Officer (SDO) after regular duty hours. 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 ABSO 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 secured until released by MP and ABSO personnel.

(4) Obtain copies of military personnel, medical, and training records for all personnel directly involved in the accident. Civilian records will be obtained only after coordination with AFGE Local 2302.

(5) Provide witness information (names, ranks, telephone numbers, 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 Installation Operations Center (IOC) will immediately notify the on-call ABSO representative when notified of an accident after regular duty hours.

c. The MPs will:

(1) Dispatch Emergency Services.

(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:

(1) Provide evacuation and treatment of injured personnel.

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

(3) As requested, provide 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 DBOS will:

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

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

(3) Provide, as required, transportation for USASC board members for the duration of the investigation.

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

f. ABSO will:

(1) First notify the Fort Knox Chief of Staff and then the following as required of a Class A or B accident:

(a) USASC.

- (b) TRADOC.
- (c) FORSCOM.
- (d) OSHA.
- (e) SERO.
- (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 USASC 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).

g. DPTMS will:

(1) Appoint, immediately, local investigation board members (to include administrative support) with requirements/qualifications as specified by the Director, ABSO. Local members will not be assigned to the board from the activity, which experienced the accident.

(2) Notify selected local members of their appointment.

- (3) Publish orders for members of the investigation board, to include USASC members.
  - (4) Provide a photographer, as required, to assist the board in photographing the accident scene.
  - (5) Ensure that photo lab support to develop, print, and mount color photographs and slides is provided as required by the investigation board.
  - (6) Assist ABSO to arrange for accident board special transportation requirements (i.e., aircraft).
- h. 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.
- i. 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. USASC or local investigation does not relieve commanders of the requirements to conduct line of duty investigation or collateral board investigation per AR 15-6 and AR 385-40. However, the line of duty investigation or collateral board will not interview witnesses or disturb the accident site until authorized to do so by the USASC Accident Investigation Board President 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 accident site access. 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.

- a. To determine all established, probable, or suspected factors that caused or contributed to the accident.

b. To 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 unavailable 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 385-55 and 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.

(1) All personnel who are required to drive an Army motor vehicle will successfully complete an Army or DOD recognized accident avoidance class every 4 years.

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

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

(4) Attendance at accident avoidance class is not a pre-requisite for driving a tracked vehicle nor is it a prerequisite for obtaining a learner's permit to operate a tracked vehicle.

(5) Upon completion of training the ABSO will provide cards that are valid for 4 years from date of class completion.

(6) Optional Form 346 (U.S. Government Motor Vehicle Operators' Identification Card) will not be issued to personnel until they have completed the accident avoidance class.

b. Army Motorcycle Safety Course.

(1) All military personnel desiring to operate a motorcycle or moped either on or off Fort Knox must first attend an Army-approved Motorcycle Safety Course. DOD civilians must attend an Army-approved Motorcycle Safety Course before operating a motorcycle or moped on Fort Knox. A class roster will be provided to security personnel for entrance on to Ft Knox to attend the course.

(2) To register for the class, contact the ABSO.

(3) Students must use their own motorcycle or moped for the examination phase. Students will be required to show state registration, driver's license or permit, and proof of insurance before class work begins.

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

**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 (ACV) will wear installed seat belts.
- c. Load bearing equipment (LBE) will be removed before fastening 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 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 utilized in the following situations or as the commander dictates:
  - (1) On bypasses around unserviceable bridges.
  - (2) Around roadblocks.
  - (3) On shoulders of narrow roads.
  - (4) In or near bivouac areas.
  - (5) When crossing roads.

f. During periods of reduced visibility, ground guides will wear high visibility clothing and use flashlights.

#### 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 utilized, will be used to 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 type vehicles are not available, cargo vehicles may be used. Personnel may be transported without fixed seating for short distances on post (cantonment area) provided 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) The cargo bed is enclosed with either a canvas topper or hard-shell.

(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 before starting to ensure the tailgate and safety strap are secured, and that all passengers are seated.

(2) Walk to the rear of the 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 in which 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 on top of cargo being transported or in vehicles cargo area transporting hazardous cargo. If personnel ride in vehicles with BII, Class I or other items, the cargo must be secured to prevent it from shifting or overturning and injuring passengers.

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	08
5/4-Ton M880, M881, M882	08
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.

**4-6. Tire Chains.** Tire chains will be used at the commander's discretion. Tire chains 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 in and 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 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 21-305-100; The Military Commercial Driver's License Driver's Manual.

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. Antenna caps will be firmly in place. Tape will be used if necessary to secure the cap in place.

h. Parking brakes will be engaged when vehicles are parked. All military vehicles will be equipped with and use chock blocks when parked on inclines or whenever or wherever maintenance is being performed per AR 385-55 (2-16, i).

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 engine or moving vehicle.

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 in the proper procedures for coupling and uncoupling trailers.
- n. The use of safety chains between trailers and prime movers 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 LEC/PM.**

- 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 in accordance with the vehicles' technical manual and FM 9-43.2.
- 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 DBOS Transportation Officer 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 DPTMS, Range Division 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 of the rank of SGT (E5) or higher. Commanders are authorized to grant exceptions to this requirement on a case-by-case basis. DBOS TMP vehicles driven by TMP drivers are exempt from this requirement.

#### 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 track commander (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 technical manual (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 the 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 Combat Vehicle Crewman (CVC) helmet or a Kevlar helmet 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 drive conditions will receive drivers training for night operations. At a minimum, training will include the following:

- (a) Night Vision Goggle (NVG) use, 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 personnel heaters. Tank turrets and the 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 ABSO 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 Armor Branch Safety Office.

**4-9. Privately-Owned Vehicle (POV) Operation.** POV 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, provide alternatives, and

commanders assessment. Details are available on the Army Safety Center web page at <http://safety.army.mil>.

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

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 from which manufacturer-installed occupant restraints have been removed or rendered inoperative.

**4-10. Bicycle Operations.** Personnel who operate bicycles on Fort Knox roadways will:

a. Obey all traffic laws and traffic control devices.

b. Not wear headphones or earphones while riding a bicycle.

c. Comply 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. Will wear approved bicycle helmets.

e. Not ride in the training complex or on range roads without approval of DPTMS, Range Division.

**4-11. Motorcycle/Moped Operation.** Military and Department of Defense (DOD) civilian personnel who operate motorcycles or mopeds on Fort Knox roadways will comply with the following. In addition, the requirements of this section are applicable to military personnel when operating these vehicles off post:

a. Motorcycle or moped operators will have in their possession:

- (1) A valid motorcycle driver's license or a valid driver's license to operate a moped.
- (2) An Army Motorcycle Safety Course card as evidence of completing an Army-approved motorcycle safety course. This does not apply to visitors.
- (3) Proof of insurance and vehicle registration. Mopeds are not required to have state registration.

b. All motorcycle or moped operators will wear:

- (1) A Department of Transportation (DOT) approved helmet properly fastened under the chin.
- (2) Shatter resistant goggles or full-face shield properly attached to helmet (a windshield or eyeglasses alone are not proper eye protection).
- (3) Full-fingered gloves.
- (4) Long trousers and long sleeve shirt or jacket.
- (5) Over-the-ankle shoes or boots.
- (6) During daylight hours, riders will wear 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.
- (7) During hours of darkness, riders will wear 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.
- (8) If PT belt is used, it will be worn diagonally over the shoulder.

c. Motorcycle/moped 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/moped will have headlight turned on at all times.

f. Military and DOD civilian personnel will not be able to 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 be able to ride their motorcycle off-post until they complete the motorcycle safety course.

#### **4-12. Off-road Vehicles (ORV) and All Terrain Vehicles (ATV)**

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

b. When ATVs are authorized for official use on-post, e.g. game wardens and Range Division personnel, all drivers will be trained and licensed. Drivers and riders will wear a helmet (which meets the American National Standards Institute 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 persons than that for which the vehicle was designed.

**4-13. M-Gators and Like Vehicles.** 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 fifty 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 tow able; damage to the Chain Drive, Transaxle and Tires will occur per the manufacturer.

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

f. The effects of airdrops 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.

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## **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 the troops and at the same time 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 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 commander.

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

b. Safety Equipment.

(1) Advanced front road guards will be placed 15 meters and front road guards will be placed 10 meters in front of formation and 30 meters to the rear of the formation. All road guards will be provided with reflective vests and baton flashlights.

(2) Personnel running 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 running on the left and right side of formation will wear a road guard vest.

(4) Stragglers will be provided road guard vests or followed by vehicles with emergency flashers turned on.

(5) Road guards will also wear safety vests.

**5-3. Recreational Walking and Jogging.** All persons using installation roadways for recreational walking and jogging during hours of darkness (30 minutes after sunset to 30 minutes before sunrise) will display a minimum of 20 square inches (at least 8 square inches front and rear) of reflective material (i.e., high visibility vest, arm bands, or leg bands). Additionally, walkers or joggers will comply with the following at all times.

- a. When jogging with others on the roadway, run in single file.
- b. Utilize sidewalks where available and practical.
- c. Always walk and jog facing traffic.
- d. Use extreme caution when crossing streets and at intersections. Obey all traffic signs and signals.
- e. 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.
- f. Use of headphones is prohibited while walking/jogging on post streets.
- g. Personnel will not walk, run, or jog on range roads or in the training complex without approval from DPTMS, Range Division.

## **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. At no time will untrained, unlicensed personnel 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. 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 ABSO.

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 of this regulation, Fort Knox Regulation 385-22, Range Regulation, and Fort Knox Regulation 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 as to prevent their 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. Range roads are controlled access roads, and are 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 MWR maintained Lake Douglas, south of the range road (7<sup>th</sup> 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.
- 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 will ensure that the following is accomplished:
  - (1) A written Standing Operating Procedure 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 setup, 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 anytime 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 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 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 carbon monoxide. Carbon monoxide (CO) detectors are not to be used in a field environment. CO detectors are not designed or proven for outdoor use and do not have a means for calibration. CO detectors used in an outdoor environment provide a false sense of safety and early warning.

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## **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 Regulation 350-7, and FM 55-30. Joint Service regulations, AR 55-80, and AR 55-162, provide guidance on oversize/overweight vehicles and convoy moves. A single HET, 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 to preclude damage to the infrastructure. DOD policy states that no vehicle movement that exceeds legal limitations or regulations, or that subjects highway users to unusual hazards, will be made without permission from state, local, and/or toll authorities.

#### **7-2. Responsibilities**

a. Unit commander will:

(1) Ensure a risk assessment is conducted before convoy departs; route recon is encouraged. Common risk factors outlined in FM 55-30, Fort Knox Regulation 350-7, and Fort Knox Regulation 385-22 will be considered.

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

(3) Designate a convoy commander.

b. Convoy commander will:

(1) Be the senior ranking officer with the convoy.

(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) Before departure, brief all drivers, assistant drivers, and senior occupants on the following:

(a) Hazardous areas and conditions.

(b) Safe following distance.

(c) Convoy and catch-up speed.

- (d) Route, to include 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 the 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 will:

- (1) Be responsible for the safe operation of the vehicle.
- (2) Ensure before, during, and after PMCS is completed.
- (3) Ensure vehicle basic issue items (BII) 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.
- (6) Inspect the operator's Optional Form (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 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:

- (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 position, seated, and with safety restraints worn.
- (4) Ensure all hatches are locked and secured.

### 7-3. Convoy Control Factors

- a. Convoys will be escorted by lead and trail vehicles equipped with rotating amber warning lights (RAWL) and two-way radios to maintain contact with each other, under no circumstances will privately owned vehicles be used as lead or trail vehicles. Personnel will not be transported in the trail vehicle, nor will the trail vehicle tow a trailer.
- 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 the 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: Every effort will be made to convoy wheeled and tracked vehicles separately.**

f. Vehicle drivers will maintain a minimum interval of 6 meters between vehicles when at the halt 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, a minimum interval of 5 meters will be maintained 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. Oversized or overweight vehicles will be equipped with RAWLs visible to approaching and passing vehicles.

j. A senior occupant (at least SGT or higher) 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. Pass a disabled vehicle with caution and at a reduced speed.

m. Disabled vehicles must be moved completely off the road. Warning triangles and flashers will be used to warn other traffic of a hazardous condition. Triangles will be a minimum of 100 meters to the front and rear of the disabled vehicle and highly visible to oncoming traffic.

## **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, and explosives will not be used in the cantonment area except when approved by the ABSO.

#### **8-2. Responsibilities**

a. ABSO will:

- (1) Monitor installation operations for compliance with explosives safety standards.
- (2) Be responsible for explosives storage licensing.
- (3) Participate with DBOS 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 ammunition supply points.
- (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 Supply (QASAS) quarterly inspection reports.
- (11) Participate in the preparation of Department of Defense Explosive Safety Board (DDESB) submissions.

b. Director, DBOS will:

(1) Provide for testing lightning protection systems of ammunition storage facilities as required by AR 385-64, chapter 7.

(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 ABSO of conditions that require license modification, DDESB submissions, etc.

(5) Provide the following items for review upon request by personnel of the ABSO.

(a) A complete inventory by storage facility showing Department of Defense Activity Address Code nomenclature, quantity and total Net Explosive Weight (NEW).

(b) Current lightning protection system inspection report. Inspections of all lightning protection systems are required every 14 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. 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 in which 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 Muldraugh Ammunition Storage Area (MASA) when using the M115A2 Simulator, Ground Burst Projectile, since certain restrictions and constraints apply.

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

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

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

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

(1) Tank Crew Instructors (TCI) will handle Hoffman devices and exploding type simulators.

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

(3) AOB 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 HC, HE, WP, PWP, fog, oil, RP, colored smoke, and diesel smoke.

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

b. Personnel will mask:

(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 Military Operations in Urban Terrain (MOUT) training when 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. 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 BDUs with the shirtsleeves completely rolled down and buttoned. The top button of the BDU 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 BDU can be worn if the commander's 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.

**8-7. 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.

## **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 to completing the mission. Personnel must use care to prevent injury to themselves and to 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 ABSO. A written report must follow promptly when required.

#### **9-2. Responsibilities**

a. Unit Commander:

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

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

b. Train Commander:

(1) Must be thoroughly familiar with train movement procedures per FM 55-21; TM 55-2200-001-12; and FM 55-20.

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

(3) Ensure that all blocking, bracing, and lashing of equipment on the rail cars is per C4, TM 55-2200-001-12 or applicable service manuals. Particular attention must be devoted to positioning of tank guns and turrets and height of equipment on top of rail cars.

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

(5) 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.

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

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

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

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

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

(11) 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 antennae will be removed from a vehicle before loading on the rail car. Antennae 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 must have others observing.

**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:

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. Briefing.** Before the start of actual operations, brief personnel 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. There will 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 onto or off of railcars or from car to car is prohibited.
- j. Personnel will wear Kevlar helmets or industrial hard hats as well as leather gloves.
- k. Military personnel participating in rail loading operations will remove Load Bearing Equipment (LBE).

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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 Fort Knox Form 4517-E (Quarterly Safety Inspection).

b. ABSO personnel will inspect work sites and facilities using the Standard Army Safety and Occupational Health Inspection (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 ABSO 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 ABSO.

(2) The unit or activity inspected will be required to respond to the ABSO 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 U.S. Army for all violations in categories I through III, requiring more than 30 days to correct.

b. DOD provides an internal channel for those 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 (MACOM) 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 DBOS work request to correct will forward a DA Form 4283, Facilities Engineering Work Request, to the ABSO by the activity responsible for correcting the problem. The ABSO will assign a Risk Assessment Code (RAC) to the work request and forward it to DBOS.

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

a. Reports of unsafe or unhealthful working conditions should be handled at the operational level whenever possible 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 ABSO.
- (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, bypassing intermediate commands or supervisory elements.

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

(2) Reports submitted to the ABSO 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 ABSO 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 Safety and Occupational Health 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, they 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, they may appeal to HQ TRADOC, (ATCS-S). The originator may further appeal to the Army designated Safety and Occupational Health Official and finally the DOD Designated Occupational Safety and Health 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 workdays. Personnel are advised that if an appeal is not acted upon within 20 workdays, 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 safety inspection and maintenance of bleachers located on Fort Knox.

#### **11-2. Responsibilities**

a. ABSO will:

- (1) Be the installation proponent for bleacher inspection policy.
- (2) Provide training and assistance to subordinate units.
- (3) Conduct an inspection of newly purchased bleachers in conjunction with the units' inspection.
- (4) Maintain an updated list of bleacher locations submitted by units/activities.

b. Unit or Activity Safety Officers will:

- (1) Maintain a current list of bleacher locations for which they are responsible.
- (2) Conduct an inspection of all bleachers assigned to the unit or activity prior to use, using Fort Knox Form 5012-E (Appendix B, Bleacher Inspection Checklist).
- (3) Conduct an inspection of newly purchased bleachers in conjunction with an ABSO representative.

#### **11-3. Procedures**

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

b. Bleachers will be visually inspected to ensure that they are level, that there are no broken or missing cross braces, loose bolts, nuts, 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 unsafe will be tagged as such and immediately placed "off limits" to all personnel until repairs are accomplished and bleachers 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 and bleachers are date-stamped.

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. AR 385-10 authorizes the purchase and maintenance of PCE.
- b. The ABSO, in conjunction with Preventive Medicine Service (PMS), will determine the need for PCE for any tasks or jobs not covered by other regulations. Requests will be submitted by memorandum to ATZK-S.
- c. Areas where PCE is required will be appropriately marked.

#### **12-2. Maintenance and Use**

- a. PCE will be maintained in a sanitary and reliable condition.
- b. Commanders and directors may initiate disciplinary action under the Uniform Code of Military Justice (UCMJ) against military personnel failing to use PCE. Guidance for disciplinary action against civilian personnel is provided in AR 690-700.

**12-3. Policy.** Supervisors will ensure PCE is provided when required and enforce its' use. Contact the ABSO 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. OSHA requires (29 CFR 1910.133) that 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 per Fort Knox Reg 40-5.

- (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 ABSO.

- 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 per Fort Knox Reg 40-5. 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. Signs may be acquired at the ABSO.

**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 in published in AR 690-700 and 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 such hazards and will 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 Removal Plan will be followed.

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

**13-3. Tornadoes.** The tornado safety rules contained in 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. In the event of an electrical storm, the following measures will be taken. Weather information is available at Range Control and local radio stations. Weather briefings will be given when the potential for severe weather exists.

(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 six 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 five seconds equals one mile (10=2 miles; 20=4 miles; 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 nor will troops 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 flat, open space, or on a bare hilltop.

(5) Troops will maintain a low profile if caught in an open, flat area. Troops 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 drop to their knees and bend forward, putting hands on knees. Do not lie flat on the ground or place hands on the ground.

(9) Units assigned range or training area should inspect any lightning protected bleacher shelters or open shelters with tables for obvious defects in the lightning protection system, such as broken ground straps, damaged lightning rods, etc. (Report to Range Control or Fort Knox Safety Office).

b. Command Protective Measures. In the event a warning is provided of an impending electrical storm or lightning strikes are 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 that 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.

## **Chapter 14**

### **Water Safety**

#### **14-1. Responsibilities.** Commanders will:

- 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 risk assessment of the training and forward the program of instruction (POI) to ABSO 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, Bldg 7956 – 471.
  - (2) Water Park, Bldg 5542 – 520.
  - (3) Gammon Field House, Bldg 850 – 149.
- d. All commanders, directors, and chiefs of staff offices will:
  - (1) Assure that water recreational activities they sponsor or control are supervised adequately.
  - (2) When possible, provide swimming instruction and water survival training for persons 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) Assure 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 ABSO may be contacted if assistance is needed in the preparation of pre-holiday safety briefings. The ABSO has films, posters, 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. Fort Knox Form 4650-E (POV Inspection Checklist appendix C) will be used to conduct this inspection.
- d. Conversations with drivers before departure to determine that 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. Encourage 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:

- a. Reminders for traffic safety.
- b. Observance of speed limits.
- c. Dangers of driving while drinking, night driving, and driving when fatigued.
- d. Wearing of seat belts per AR 385-55 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 carbon monoxide.

**15-4. Long Distance Driving.** All of the above holiday driving safety requirements 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. Installation Safety Director will:

(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 ABSO, airfield, and unit safety elements in all aspects of safety and risk management.

b. Installation Aviation Safety Officer (IASO) will:

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

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

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

(4) Assist assigned airfield and 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 that all personnel are afforded the opportunity to attend required safety training courses and meetings.

(7) Conduct a semi-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, follow-up to ensure recommended corrective action is 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 purpose.

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

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

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

c. DPTMS Aviation Division Chief/Aviation Unit Commanders will:

(1) Ensure 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 that 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 Risk Assessment/Management Program is established and a copy of Risk Assessments maintained on file by the ASO.

d. Airfield/Unit Safety Officers will:

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

(2) Support the ABSO in all areas of aviation safety, and ensure unit requirements are met in such areas as driver's education training programs, hazard communication 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) Furnish the ABSO copies of accident and incident investigations, inspections, safety meetings and hazard reports concerning ground operations and maintenance. Furnish action taken on selected Safety-of-Use Messages.

(5) Route all work orders concerning safety hazards through the ABSO for risk assessment and monitoring.

(6) Coordinate with supervisors and ABSO to ensure training needs of personnel are met.

(7) Coordinate all planned high-risk operations, (i.e., hot refueling, field training exercises) with the ABSO.

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

- a. Each unit will maintain a positive FOD program.
- b. Rings/watches will not be worn while inspecting or maintaining aircraft. Tools will be inventoried and monitored to ensure their removal from the airfield.
- c. All personnel visiting the airfield, 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/Taxiway or where their presence could pose a danger to operating aircraft. For example, areas in Keyes Park, by the Armor Inn, 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 DPTMS, Range Operations. 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 38.90.

**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 for emergencies as addressed in Godman Army Airfield SOP.

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## **Chapter 17**

### **Respiratory Protection Program**

**17-1. General.** This is a mandatory program. Personnel must comply with the Respiratory Protection Program as outlined below:

a. Respirators are considered an acceptable method of protecting the health of Department of Army personnel when the Safety Director (SD)/Industrial Hygienist (IH)/Occupational Health Nurse (OHN) determine that 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 Dec 94 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. ABSO will:

(1) Have primary responsibility for administration and management of the Fort Knox Respiratory Protection Program.

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

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

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

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

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

b. The IRPD/IRS will:

(1) Plan, program and annually evaluate the respiratory protection program (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 Preventive Medicine Service (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 Div, DBOS, to insure a monthly inspection of emergency-use respirators and self-contained breathing apparatus (SCBA) is conducted.

(7) Train or ensure that the training of supervisors and workers meet requirements of AR 11-34, para 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, para 3- 5b.

(9) Issue ATZK-S Form 2659 (Respiratory Equipment Users Cards) 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 purpose.

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

- (1) Ensure CPAC addresses requirement for respirator use in Fort Knox job descriptions.
- (2) Refer personnel being considered for employment in areas of operations requiring the use of RPE to the Occupational Health Clinic for a pre-employment physical.
- (3) Reassign employees presently working in areas requiring RPE that are unable to wear the required protection as determined by the Occupational Health Clinic and ABSO.
- (4) Documenting training per 29 CFR 1910.134.

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

- (1) Perform worksite evaluations to determine areas/locations where respiratory protection is required, and provide copies of evaluations with recommendations to ABSO. 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 respiratory protection program.
- (4) Maintain an inventory of hazardous areas in which respiratory protection is required. Provide a copy of updated listing to ABSO by 31 Jan and 31 Jul 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 Industrial Hygienist and Occupational Health Nurse will use ATZK-S Form 3149-R-E, Respiratory Protection Request, to document their required action. (see appendix E)
- (7) Perform fitting for corrective lenses inside full-face-piece respirator to ensure proper vision and good fit.

e. DBOS will:

- (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. Fire Department will:

(1) Provide training for fire fighters on the proper cleaning and disinfecting methods to be used on mask 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:

(1) Complete section 1 of ATZK-S 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 Request for Personnel Action, when it is submitted to CPAC for recruitment to fill a position. Supervisor 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 insure that proper RPE is used by employees where required and that employees adhere to the instructions relative to the proper use and maintenance requirements of the RPE. Consider user compliance in performance appraisals.

(7) Ensure employees receive periodic medical examinations by providing the Occupational Health Service with an ATZK-S 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 individually 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 ABSO/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 POC.

(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) 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 unit SOP.

h. Unit/Activity Respirator Specialist will:

(1) Coordinate with supervisors and identify to ABSO all personnel, by section, who are required to use respirators in their jobs.

(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 user's records after determining that all requirements for medical evaluation, training and fit testing are met.

(4) Attend training sessions, meetings as scheduled by ABSO.

i. Respiratory equipment users will:

(1) Report to the Occupational Health Service 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, which will protect against dust, sunlight, deformation, and the concentration of contaminants and environmental conditions.

### **17-3. Procedures**

#### **a. Selection of respiratory protection equipment.**

(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 (NIOSH) and the Mine Safety and Health Administration (MSHA). 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.

(3) Industrial respirators (negative pressure types) are not to be used in confined spaces or where concentrations of contaminants are immediately dangerous to life or health (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 ABSO, 4-4920.

(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.

#### **b. Use of respiratory protection equipment:**

(1) Where practical, a respirator will be assigned to an employee for their exclusive use.

(2) Supervisors will ensure that permanently assigned respirators are marked to indicate to whom it is assigned. 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 ABSO, 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 there is physical changes that could affect respirator fit, i.e., facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

(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.

1. Place thumb through large opening in exhalation valve guard to close the exhalation valve.

2. Exhale.

3. If the mask bulges slightly and there is no evidence of air leaks, a tight fit has been obtained.

4. If an air leak is detected, reposition the mask and/or tighten straps and repeat the test.

(b) Negative Pressure Fit Check.

1. Place palms of hands over opening on filters and inhale for 5-10 seconds.

2. If mask collapses, you have a good seal.

3. 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 used collectively or 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 mask beyond the manufacturer's recommendations. If mask is unserviceable, turn the mask into the IRS for disposal.

(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, broken or malfunctioning buckles and attachments.

(c) After removing the cover, examine the exhalation valve for the following:

(d) Foreign material, such as detergent residue, dust particles or human hair under the valve seat.

(e) Cracks, tears, distortion in the valve material, or improper insertion of the valve body in the face piece.

(f) Cracks, breaks, or chips in the valve body, particularly in the sealing surface.

(g) Missing or defective valve cover or improper installation of the valve body.

(4) Examine the air-purifying elements for:

(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.

(a) The following approved procedures will be used for cleaning and disinfecting respirators:

(b) Remove any filters, cartridges, or canisters. NOTE: Do not submerge in cleaning or disinfecting solution.

(c) Wash the face piece and breathing tube in a cleaning solution of one-tablespoon dishwashing soap to one-gallon warm water. To disinfect the face piece and breathing tube use 2 tablespoons of household bleach to one gallon of warm water.

(d) Rinse completely in clean, warm water.

(e) Air dry in a clean/non-contaminated atmosphere.

(f) Clean other respirator parts as recommended by the manufacturer.

(g) 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.

(h) 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 the 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; however, respirators will not be stored in such places as lockers or toolboxes unless they are in containers or cartons. Respirators will be placed or stored so that 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.

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## **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 AR 672-74. All awards will be coordinated through ABSO.

#### **18-2. Unit Safety Awards**

a. Fort Knox Commanding General's Annual Unit Safety Award.

(1) This award will recognize major units and activities, which most successfully perform the safety mission. A plaque will be awarded for superior safety performance.

(2) Program evaluation during Management Assistance Visits, conducted by the ABSO, and unit accident experience (previous fiscal year's experience as baseline) will serve as the basis for determining awards.

(3) Units must show improvement to receive an award consecutively.

b. Army Accident Prevention Award of Excellence, Honor, and Accomplishment in Safety. A unit that completes 36, 24 or 12 consecutive months without experiencing a Class A, B, C, or D accident may qualify for these awards. See AR 672-74 for award criteria.

c. DA Form 1118, Certificate of Merit of Safety. Commanders at all levels will recognize safe performance displayed by units under their command through the use of DA Form 1118.

#### **18-3. Individual Accident Prevention Awards**

a. 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 for their excellence in performance of safety duties. Brigade commanders, directors, and chiefs of staff offices may submit one nomination annually to the ABSO 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:

(1) A unit safety inspection program to eliminate unsafe conditions and unsafe acts.

(2) A safety education and promotion program centered on identified problems.

(3) Unit safety council meetings.

(4) Investigation and reporting of accidents.

(5) Analysis of unit accident experience to determine problems and implementation of countermeasures.

b. DA Form 1118 or DA Form 1119 and 1119-1 (Certificate of Achievement in Safety). Commanders at all levels will recognize safe performance displayed by individuals under their command through the use of DA Form 1118 or DA Form 1119 and 1119-1. These certificates will be signed by the unit commander and will include, at a minimum, the awardees name and the contribution for which the award is given.

c. Incentive Awards authorized by AR 672-20.

d. Driver and Mechanic Badge for military and civilian personnel as prescribed in AR 600-8-22.

e. Suggestions, superior accomplishment, and honorary awards as prescribed in AR 672-74.

**18-4. 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.

**18-5. 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.

**18-6. Special Awards.** Commanders, directors, and chiefs are encouraged to establish special safety awards, locally procured or devised, for their activities and units per AR 672-74.

## **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, Material, 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 the 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.

(1) Ensures implementation of appropriate provisions of AR 385-16 as they relate to the USAARMC mission functions of organization, materiel, personnel, and facilities.

(2) Ensures that the Director of Training, Doctrine, and Combat Development (DTDCD) keeps the ABSO informed of safety issues associated with the organizational and materiel developments, products and processes.

b. Assistant Commandant, USAARMS.

(1) Ensures implementation of appropriate provisions of AR 385-16 as they relate to the USAARMS mission functions of doctrine, training, leadership and education.

(2) Is responsible for embedding safety in the training development process.

(3) Ensures that the training developers coordinate doctrine, training, leadership and education development safety issues with the ABSO.

(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) Complete and attach a Lesson Plan Risk Assessment, FK Form 5006-E to each lesson plan per TRADOC Regulation 350-70.

c. Armor Branch Safety Manager:

(1) Serves as the control point of contact for Armor Branch safety matters. Refers actions to the appropriate agency for action and resolution.

(2) Has staff oversight for the integration of safety in combat developments, training developments, and training missions.

(3) Has responsibility for coordination of the Armor Branch Proponency Safety Program.

(4) Serves as technical advisor to the Commandant and the USAARMS staff for 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 (Safety and Occupational Health Specialist - GS-018) from the ABSO 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. Such personnel will be responsible to the Director, DTDCD, for the force developer portion of the materiel acquisition system safety program relating to Armor proponent items.

(7) Reviews and validates 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, USASC, 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 Military Occupational Specialty (MOS) safety issues, risk management.

(13) Assists USAARMS in implementing the TRADOC resident Hazard Communication (HAZCOM) training program to students as required.

d. Armor Branch Safety Specialist:

(1) Monitors the integration of 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 appropriate USAARMS staff for utilization 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 (TSP) 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:

(1) Serves as the technical expert on system safety engineering and management for the Director DTDCD.

(2) Implements the provisions of AR 385-16 relating to the combat developer for all Armor proponent materiel systems.

f. DTDCD:

(1) Serves as the USAARMC proponent for AR 385-16 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 designated representative, provides guidance, tasking priorities, and supervision to the Armor System Safety Engineer.

(3) Advises ABSO 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 ABSO.

g. Commanders of USAARMS training activities:

(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 risk management process.

(3) Perform safety risk assessments during the systems approach to training design, development, and implementation phases. Assign lesson plan risk assessment levels using FK Form 5006-E (Lesson Plan Risk Assessment) and coordinate high and extremely high-risk ratings with the ABSO. 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 instruction in leader development courses. Instruction should include an overview of the Army Safety Program, 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 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 safety and occupational health requirements into training guidelines, techniques, curricula, and new equipment training.

## **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. SOPs will be prepared, published, and posted in the work area covering each potentially hazardous operation such as, but not limited to:

- (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.
- (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 vehicles in confined areas and when entering and exiting buildings. 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 lid or fusible link lids, and will be 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 purpose 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 by using 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 certification inspection from DBOS Maintenance Division.

l. Servicing brake linings and clutch pads may pose a serious hazard from airborne asbestos fibers. These operations will be evaluated by an Industrial Hygienist and recommended protective measures will be followed.

m. All lifting devices, e.g. hoists, cranes, jacks, forklifts will be inspected, marked, load-tested and maintained per requirements of TB 43-0142, ANSI Standards, and 29 CFR 1910.66.

n. Painting operations are prohibited unless proper ventilation is provided. Contact Preventive Medicine, Industrial Hygiene for assistance in evaluating ventilation.

**20-3. Precautions against Carbon Monoxide 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 carbon monoxide:

a. Commanders and activity chiefs, as applicable, will:

(1) Request surveys to be performed by PMS to determine if a hazard from carbon monoxide 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.

(2) Assure personnel are oriented concerning the hazards of carbon monoxide before the cold weather season.

b. Precautions will be taken to safeguard personnel against carbon monoxide gas poisoning from main and auxiliary engine exhaust and fuel burning personnel heaters while operating, servicing, or being transported in motor vehicles.

c. Exhaust systems will be checked for leaks monthly, and engines will not be allowed to idle for an extended time without adequate ventilation.

d. Vehicle drivers will 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 DBOS for correction.

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 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 ABSO 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 risk assessment of the training.

## **20-8. Bulletin Boards**

a. The following 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).

(3) Inventory of all hazardous chemicals/materials and location of MSDSs.

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 from the ABSO. Posters designed by members of the unit and oriented toward unit needs are normally more effective than stock posters and should be used whenever possible.

**20-9. Color Coding.** The marking of hazards and painting of safety equipment will be in accordance with OSHA regulations.

## **20-10. Civilian Visitors Operating Military Equipment**

a. There is a Department of the Army (DA) moratorium on civilian visitors operating military vessels, aircraft, vehicles, and crew-served weapon systems when such 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 Mounted Urban Combat Training Facility, or the rappel tower.

c. Civilian operation of other types of equipment, including small arms, must be done safely, under the direct supervision of Department of Defense civilian or military personnel per

prescribed policies and regulations; military commanders/directors at the O-5 level can approve these events. Approval must be in writing and based upon a thorough 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 ABSO 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 are 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 from 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.

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## Chapter 21

### Risk Management

**21-1. General.** 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. FM 100-14 contains detailed risk management guidance and will be used to ensure the risk management process is conducted to standard. The standard for risk management 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 risk management 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. FK Form 5008-E will be used to complete the 5-step risk management process prior to all training events; a copy of FK Form 5008-E will be maintained at the training site. Safety professionals of the Armor Branch Safety Office 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; and are further authorized to stop any operation or process that would immediately endanger life, health or property.

**21-2. Risk Assessment.** A risk assessment is part of risk management. It can range from simple to complex. A 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 risk management process consists of the following steps:

a. The first step in risk management 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 8 on FK Form 5008-E. 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; 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 at appendix D to determine the initial level of risk and check the appropriate block (L - Low, M - Moderate, H - High, E - Extremely High) in column 9 on FK Form 5008-E.

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 10 on FK Form 5008-E. After establishing controls, re-evaluate the hazards to determine

residual risk, again using the matrix at appendix D, and ensure risks are reduced to a level at which benefits outweigh potential costs, then check the appropriate block in column 11 on FK Form 5008-E. 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 Senior Mission Commander of General Officer rank.

(2) High Risk missions require approval by O-6 level Brigade or Regimental Commander or Director.

(3) Moderate Risk missions require approval by Lieutenant Colonel or equivalent and Commandant NCOA. This authority will not be delegated.

(4) Low Risk missions require approval by an O-4 level Commander. This authority may be delegated to the next lower level.

d. Step four is to *Implement Controls* or put into place controls that eliminates the hazards or reduces their risks. This may be done through verbal or written orders, standing operating procedures, 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 12 on FK Form 5008-E.

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 13 on FK 5008-E.

f. At this time circle the appropriate residual risk level for the mission in block 14 on FK Form 5008-E, 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 FK Form 5008-E will then be signed by the proper authority as provided in paragraph 21-3c above.

#### **21-4. Lesson Plan Risk Assessment**

a. The risk management process will be used to evaluate each lesson plan used in the Armor School. Fort Knox Form 5006 will be used to record information and a copy attached to each lesson plan. Lesson plans with no risk do not require a FK Form 5006-E 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:

(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 whether or not to accept residual risk that cannot be eliminated.

(4) Modify training with unnecessary risk to an acceptable level.

b. Lesson plans with an Extremely High or High level of risk require approval by the TRADOC commander and the installation commander respectively. Moderate risk approval authority will be by the unit Commander; this authority can be sub-delegated to a lower level with the Brigade/Regimental Commanders approval. Low risk approval authority will be by the first line leader.

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## **Chapter 22**

### **Hazard Communication Program**

**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 Hazard Communication program 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:

(1) Ensure a Hazard Communication Program (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 Hazard Communication Program as outlined herein.

b. ABSO will:

(1) Oversee the HCP.

(2) Monitor unit's Chemical Hazard Inventory Log during the Standard Army Safety and Occupational Health Inspection performed annually.

(3) Provide Train the Trainer or initial training for the Federal Hazard Communication program upon request.

(4) Monitor effectiveness of employee's hazard communication training through an established inspection program.

(5) Assist user in obtaining MSDS.

c. MEDDAC, Preventive Medicine Service, will:

(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 occupational health hazards. Provide copies of surveys HHIM to ATZK-S upon request.

(4) Assist user and/or ABSO in obtaining MSDS if not available.

d. Supervisors (Military and Civilian) will ensure employee Hazard Communication training is documented on the employee's record (ATZK-CP Form 7-B for civilians) and in the Soldiers 201 file after completion of training.

e. Director of Contracting (DOC) will:

(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 should be required to submit an MSDS for the chemical they want to provide so the ABSO 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 supply warehouse/receiving unit.

(5) Ensure contractor's safety programs include the OSHA requirements of Hazard Communication standards.

f. Commanders, directors and chiefs, staff offices /departments will ensure:

(1) An individual is appointed to coordinate the hazard communication program within their organization and act as the central point of contact. Provide the name and phone number to the ABSO.

(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. Unit will:

(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 ATZK-S.

(3) Prepare a Standing Operating Procedure (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:

(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 will:

(1) Ensure receipt of MSDS with shipment of hazardous chemicals.

(2) Provide MSDS to user at time of issue.

### **22-3. Procedures**

a. Labeling.

(1) Labeling shall provide workers with baseline information on the substances to which they are exposed. 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 into which a toxic substance or mixture is being transferred from a labeled container, and 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 DOD hazardous chemical label, and affix same 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 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. Units generating hazardous wastes will contact the Environmental Management Division, at 4-3629, 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) MSDS for locally purchased items and nonstandard stock hazardous chemicals should be requested at time of purchase.

(3) If a MSDS is not received with a locally purchased hazardous chemical, the supervisor may contact the vendor, 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 Hazard Communication Program within the unit?

b. Is there a hazardous chemical inventory covering all hazardous chemicals within the organization, and is the inventory list readily available to workers?

c. Is the hazardous chemical inventory kept up-to-date, and is the updated list forwarded to the Armor Branch Safety Office?

d. Is a copy of the hazardous chemical inventory and the location of the Material Safety Data Sheet's maintained on the unit bulletin board by the Fire Evacuation Plan?

e. Is there a Material Safety Data Sheet for each chemical in the inventory and are the MSDSs readily available for the worker's review?

f. Is there an SOP developed covering the execution of the hazardous chemical program within the unit?

g. 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).

- h. Are all hazardous chemical containers properly labeled?
- i. Are all hazardous chemicals properly stored?
- j. 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. Armor Branch Safety Office will:

(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, staff offices/departments will:

(1) Ensure employees required to use lockout/tagout devices are trained in 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:

(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 the employee who installed the device is unable to remove them.

e. Employees will:

(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 hazard, 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 as a check on having disconnected 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.

### **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.

### **23-6. Removal of Isolating Devices**

- a. This procedure will only be applied to those situations where circumstances are such that the employee who applied the lockout or tagout is unavailable to remove them.
- b. The supervisor must verify that the employee who applied the device is unavailable to remove the lock or tag.

c. Every reasonable effort will be made to contact employees to inform them that their lockout or tagout device has been removed.

d. The supervisor will ensure that the 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 ABSO.

### **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 utilized, 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 a change in their job assignments, a change in machines or equipment, processes that present a new hazard, or when there is a change in the 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, 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. 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 personal protective equipment.

(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 to reflect new or revised personnel positions with occupational exposure.

b. Methods of compliance:

(1) General - Standard precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(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, personal protective equipment shall also be used.

(3) Hand washing facilities shall be provided which are readily accessible to personnel. 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 personal protective equipment.

(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 such body areas with blood or other potentially infectious materials.

(6) Specimens of blood and other potentially infectious materials 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 Environmental Protection Agency (EPA)-approved disinfectant. Read and follow the product instructions found on the container as well as the Material Safety Data Sheet (MSDS).

### **24-3. Personal Protective Equipment (PPE)**

a. Appropriate personal protective equipment shall be provided at no cost to personnel. PPE 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:

(1) Ensure that personal protective equipment is cleaned, laundered, or disposed of at no cost to personnel.

(2) Ensure that personal protective equipment is repaired or replaced as needed to maintain its effectiveness.

c. Employees will:

(1) Remove garment that is penetrated by blood or other potentially infectious materials as soon as possible.

(2) Remove personal protective equipment before leaving the work area and placed 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, other potentially infectious materials, mucous membranes, and non-intact skin; and 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 when 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 other potentially infectious materials 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, environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

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 other potentially infectious materials; 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:

a. Be placed in containers that are closable.

b. Be bagged at point of generation and placed into sturdy, leak proof containers.

c. Be identified by red/orange bags or biohazard label or sticker.

d. Be 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. Be 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 double bag 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 personal protective equipment.

#### **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 be 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. 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 Occupational Health Service 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) 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 Occupational Health Service 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, Occupational Health Service would submit the order to conduct the testing as soon as possible.

b. The supervisor must assure that 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:

(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:

(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" means pathogenic micro-organisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B virus (HBV) and Human Immunodeficiency Virus (HIV).

b. "Contaminated" means the presence or the reasonable anticipated presence of blood or other potentially infectious materials on an item or surface.

c. "Contaminated Laundry" means laundry that has been soiled with blood or other potentially infectious materials.

d. "Decontamination" means 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" means controls that isolate or remove the bloodborne pathogens hazard from the workplace.

f. "Exposure Incident" means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of an employee's duties.

g. "HBV" means Hepatitis B Virus.

h. "HIV" means Human Immunodeficiency Virus.

i. "Occupational Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

j. "Other Potentially Infectious Materials" means human body fluids such as semen, vaginal secretions, cerebrospinal, synovial, pleural, pericardial, peritoneal and amniotic fluids, saliva in dental procedures; any unfixed tissue or organ (other than intact skin) from a human (living or dead).

k. "Parenteral" means piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

l. "Personal Protective Equipment" means specialized clothing or equipment worn by an employee for protection against a hazard.

m. "Regulated Waste" means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid if compressed; and items that are caked with dried blood or other potentially infectious material and are capable of releasing these materials during handling.

n. "Source Individual" means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

o. "Standard Precautions" means 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" means 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 other potentially infectious materials 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 other potentially infectious materials 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 to maintaining effective control of radioactive items to ensure that exposure to ionizing radiation and the possible release of airborne radioactive contaminants is as low as is reasonably achievable. The Installation Radiation Safety Officer (IRSO) will provide overall coordination, advice, and assistance for radiological safety, except for MEDDAC, which will be managed by the assigned medical RPO per paragraph 25-2c below.

#### **25-2. Responsibilities**

a. Installation Commander. The Commander shall:

(1) Ensure that 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 an ARSO.

(5) Designate members for the Installation Radiation Control Committee (IRCC).

b. Commanders (except MEDDAC), directors, and activity chiefs possessing ionizing radiation sources will:

(1) Designate in writing a Unit Radiation Safety Officer (URSO).

(2) Ensure items containing radioactive material are used solely as intended by pertinent tech bulletins, tech manuals, operator manuals, and all other written guidance to ensure personnel exposure is kept as low as reasonably achievable.

(3) 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.

(4) Maintain inventories of active and disposable radioactive materials, sources, commodities, and ionizing radiation-producing devices.

(5) Ensure storage areas comply with AR 40-5, 15 October 1990, Preventive Medicine, AR 11-9, and applicable technical publications.

(6) Submit inventories of ionizing radiation sources to the IRSO not later than 31 January and 31 July yearly.

(7) Ensure that URSO has the training, time, and resources necessary to perform their duties.

c. Commander, USA MEDDAC will:

(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) Conducts annual training for Fire Department, Military Police and other first responders on medical effects of radiation.

(4) Maintain an inventory of radioactive materials and devices and provide copies to the IRSO.

(5) Provide copies of the MEDDAC Radiation Safety Committee meeting minutes to the IRSO.

(6) Submit the results of U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) and Nuclear Regulatory Commission (NRC) ionizing radiation protection surveys to the IRSO.

d. Director, Directorate Base Operations Support (DBOS) will:

(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, 1 August 1993, Identification of Radioactive Items in the Army, and TB 43-0216, 8 October 1990, Safety and Hazard Warnings for Operation and Maintenance of TACOM Equipment, as containing radioactive material are screened and proper disposal actions taken.

(6) Ensure that G4/DBOS SOP, Transfer of Radioactive Items into and within G4/DBOS, is available for and followed by personnel who manage, order, dispose, handle, store, or transport radioactive sources, materials, commodities, and devices.

(7) Provide for storage space and consolidate radioactive waste. Coordinate disposal actions with the IRSO.

(8) 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.

(9) 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.

e. Defense Reutilization and Marketing Office will notify the IRSO if material or equipment is received which is suspected of containing or contains radioactive material.

f. Director, Directorate of Contracting (DOC) will:

(1) Ensure that transporters of radioactive materials onto or off Fort Knox are knowledgeable concerning the accident reporting requirements of AR 385-40, 1 November 1994, Accident Reporting and Records, and other Federal regulations.

(2) Ensure that contractors have completed and forwarded to the IRSO a DA Form 3337, Application for DA Radiation Authorization (DARA) or Permit (DARP), 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.

g. Commanders disposing/transferring radioactive waste will:

(1) Notify the IRSO so that pickup can be arranged.

(2) Prepare all necessary paperwork for the transfer of items to DBOS.

(3) Establish handling and control procedures to preclude the unauthorized removal or salvage of radioactive material.

h. Installation Radiation Safety Officer. The IRSO will be designated in writing and will be assigned to the installation safety office. The IRSO will:

(1) Establish procedures, which will ensure that 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 that 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, Code of Federal Regulations (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) Submit Radiation Incident/Accident reports as necessary per AR 385-40.

(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 Department of Transportation (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

i. Unit Radiation Protection Officer. The URSO will:

(1) Formulate and implement the Radiation Protection Program in their unit to ensure personnel safety and regulatory compliance.

(2) Provide the commander/director and radiation workers with advice and assistance on all matters pertaining to radiation protection.

(3) 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.

(4) Review radiological operations to determine compliance with regulations and SOPS.

(5) Ensure proper personnel monitoring devices are being utilized.

(6) Maintain dosimetry records on file per AR 11-9.

(7) Perform radiation surveys and leak tests or ensure that such surveys and leak tests are performed.

(8) Assist in the investigation of radiation accidents, incidents, and overexposure.

(9) Prepare ATZK-S Form 3151 (Radioactive Material Transfer) for all radioactive items being transferred to G4/DBOS.

(10) Attend the semi-annual installation radiation control committee (IRCC) meeting.

k. Supervisors of Radioactive Material. Supervisors of radioactive material or radiation-producing devices will:

(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 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) Prepare, before the start of any operation involving radioactive material or possible exposure to radiation, 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 to the IRSO/URSO any radiologic accident, unsafe incident, suspected overexposure or contamination, or any incident involving lost or found radiation-containing material.

### **25-3. Control of Ionizing Radiation Sources**

a. No radioactive material (except hospital material) may be brought onto 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 Nuclear Regulatory Commission (NRC) to an activity on the installation or,

(3) Authorized by a Department of the Army Radioactive Material Authorization (DARA) for Army-owned quantities exempt from NRC licensing or,

(4) Included in a DA radiation permit granted for the use, storage, possession, or disposal of any source by non-Army agencies or,

(5) Authorized by the Installation Commander (temporary use or storage only) for a maximum of 15 calendar day.

b. Radiation-producing devices (i.e., industrial X-ray machines etc.) must be reported to the IRSO within 5 days of arrival on the installation.

c. Inventories of all ionizing sources will be prepared by the URSO of the owning activities and forwarded to the IRSO semiannually by 31 Jan and 31 Jul.

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, though may not be limited to:

- (1) "No eating, drinking, smoking, or applying of cosmetics is permitted in this area".
- (2) CAUTION – RADIOACTIVE MATERIAL
- (3) Notice to employees: NRC Form 3.
- (4) NRC Notice of Violations (NOV) – 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 ARSO 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 propose 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 installation safety office.

#### **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 Department of Transportation (DOT), the Nuclear Regulatory Commission (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 labeled with Radioactive White I, Yellow II, or Yellow III label.

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 ASAP 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 can be provided.

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:

(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.

i. If there has been a fire or if airborne release of radioactive contaminants is 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 Installation RSO will advise the fire department of areas used to store radioactive material and the particular hazards associated with each area.

(1) Radioactive materials will be stored strictly per published technical data 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 all storage areas quarterly per local SOP.

**25-8. Report of Safety Hazards**

a. Code of Federal Regulations (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” per Title 10 CFR, Part 21.

## **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: (1) possible atmospheric contamination by toxic or flammable vapors, oxygen deficiency or excess; (2) the possibility of liquids, gases, or solids being admitted during occupancy; or (3) the 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:

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work,

(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.),

(3) Is not designed for continuous employee occupancy.

b. "Entry" means 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 is considered to have occurred 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, have 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 such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

(4) Contains any other recognized serious safety or health hazard.

### **26-2. Responsibilities**

a. Commander, USAARMC will:

(1) Ensure a 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) Ensure funding is made available to implement and maintain the confined space entry program as outlined herein.

b. Commanders, directors, branch chiefs of Soldiers and civilians who may be required to enter confined spaces will:

(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 are 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.

(7) Maintain a listing of all confined spaces within the organization.

c. Fort Knox Safety Office will:

(1) Oversee the Confined Space Entry Program (CSEP).

(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:

(1) Provide 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 ABSO 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 ABSO 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 Occupational Health Clinic for pre-placement physical examinations.

f. Fire Protection and Prevention Division will:

(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 to take place.

g. Entry Supervisors will:

(1) Meet all training requirements for entry supervisor identified in paragraph 26-8.

(2) Ensure acceptable entry conditions are maintained throughout entry procedures.

(3) Ensure employees are supplied, and trained in the use, and care of personal protective equipment, and 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 below.

(8) Authorize, oversee, and terminate entry operations per this regulation.

h. Gas Detection Monitors will:

- (1) Be appointed in writing.
- (2) Be 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) Ensure precautions are taken to prevent dangerous air contamination.
- (6) Complete the confined space entry permit per paragraph 26-4 of this document before permitting entry.
- (7) Ensure required personal protective equipment (PPE) is on site and in good condition.
- (8) Ensure personnel and equipment are protected during the entry procedures.

i. Employees will:

- (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 immediately dangerous to life or health (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 immediately dangerous to life and health. 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, there shall be a trained standby person assigned to that confined space with a fully charged, positive pressure, self-contained breathing apparatus (SCBA) on hand. Additional duties of the standby person are to maintain unobstructed lifelines and communications to all workers within the confined space until he is relieved and is 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 aforementioned 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 ABSO.

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* means 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* means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties set forth in paragraph 26-10.

c. *Authorized entrant* means an employee who is authorized to enter a permit space.

d. *Blanking or blinding* means the absolute closure of a pipe, line, or duct by the fastening of a solid plate that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

e. *Confined space* means a space that:

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and

(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and

(3) Is not designed for continuous employee occupancy.

f. *Double block and bleed* means 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* means 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* means 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 that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

i. *Entry* means 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 is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

j. *Entry permit* (permit) means 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.

k. *Entry supervisor* means the person (such as 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* means an atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), 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 is published in the Occupational Safety and Health Administration regulations (OSHA), and which 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 Material Safety Data Sheets 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* means 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)* means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

o. *Inerting* means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

**Note: This procedure produces an IDLH oxygen-deficient atmosphere.**

p. *Isolation* means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such.

q. *Line breaking* means 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* means 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)* 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 such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a smaller cross-section.

(4) Contains any other recognized serious safety or health hazard.

t. *Permit-required confined space program* (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from permit space hazards and for regulating employee entry into permit spaces.

u. *Prohibited condition* means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

v. *Rescue service* means the personnel designated to rescue employees from permit spaces.

w. *Retrieval system* means 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* means the process by which 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 by, or reviewed by, a technically qualified professional (e.g., OSHA consultation service, or certified industrial hygienist, 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 for 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.** 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.

a. 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 about which an employee has not previously been trained.

(4) Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required or that 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 that the training required by paragraphs 26-8a and b 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 required equipment.

c. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required by paragraph 26-10f.

d. Alert the attendant whenever:

(1) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

(2) The entrant detects a prohibited condition.

e. Exit from the permit space as quickly as possible whenever:

(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:

a. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

b. Is 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 that 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 and if they have been relieved as required by paragraph 26-10d.**

e. Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space under paragraph 26-10f.

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) If the attendant detects a prohibited condition.

(2) If the attendant detects the behavioral effects of hazard exposure in an authorized entrant.

(3) If 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.

g. Summon 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:

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 that the means for summoning them are operable.

e. Removes unauthorized individuals who enter or who 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 enter permit spaces to perform rescue services.

(1) The employer shall ensure that each member of the rescue service is provided with, and is trained to use properly, the personal protective equipment 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.

(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 actual 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 from which rescue is to be performed.

(4) Each member of the rescue service shall be trained in basic first-aid and in 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 persons other than the host employer's employees perform permit space rescue, the host employer shall:

(1) Inform the rescue service of the hazards they may confront when called on to perform rescue at the host employer's facility.

(2) Provide the rescue service with access to all permit spaces from which rescue may be necessary so that 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 that the use of a chest or full body harness is infeasible or creates a greater hazard and that the 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 such 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 Material Safety Data Sheet (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.

FOR THE COMMANDER:



ROBERT L. BROOKS  
Director, Information Management

OFFICIAL:  
KEITH A. ARMSTRONG  
Colonel, AR  
Garrison Commander

DISTRIBUTION:

A

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## **Appendix A**

### **References**

#### **Section I**

#### **Required Publications**

**AR 11-9**

The Army Radiation Safety Program

**AR 11-34**

The Army Respiratory Protection Program

**AR 15-6**

Procedures for Investigating Officers and Boards of Officers

**AR 40-66**

Medical Record Administration and Health Care Documentation

**AR 40-5**

Preventive Medicine

**AR 55-80**

DOD Transportation Engineering Program

**AR 55-162**

Permits for Oversize, Overweight, or Other Special Military Movements on Public Highways in the United States

**AR 195-2**

Criminal Investigation Activities

**AR 385-10**

The Army Safety Program

**AR 385-16**

System Safety Engineering and Management

**AR 385-40**

Accident Reporting and Records

**AR 385-55**

Prevention of Motor Vehicle Accidents

**AR 385-64**

U.S. Army Explosives Safety Program

**AR 600-8-22**

Military Awards

**AR 600-55**

The Army Driver and Operator Standardization Program (Selection, Training, and Licensing)

**AR 690-700**

Personnel Relations and Services (General)

**AR 672-20**

Incentive Awards

**AR 672-74**

Army Accident Prevention Awards Program

**AR 700-141**

Hazardous Material Information System

**DA PAM 385-40**

Army Accident Investigation and Reporting

Fort Knox Reg 385-10 (23 Apr 04)

**FM 10-67-1**

Concepts and Equipment of Petroleum Operations

**FM 21-305**

Manual for the Wheeled Vehicle Driver

**FM 55-20**

Rail Transport in a Theater of Operations

**FM 55-30**

Army Motor Transport Units and Operations

**FM 100-14**

Risk Management.

**TB 9-639**

Passenger-Carrying Capacity of Tactical and Administrative Vehicles Commonly Used to Transport Personnel

**TC 21-21**

Water Survival Training

**TC 21-305**

Training Program for Wheeled Vehicle Accident Avoidance

**TC 21-305-100**

The Military Commercial Driver's License Driver's Manual

**TC 21-306**

Tracked Combat Vehicle Driver Training

**TM 55-2200-001-12**

Transportability Guidance for Application of Blocking, Bracing and Tie-down Materials for Rail Transport

**Section II**

**Related Publications**

A related publication is merely a source of additional information. The user does not have to read it to understand this regulation.

**AR 10-5**

Organization and Functions, Headquarters, Department of the Army

**AR 40-10**

Health Hazard Assessment Program in Support of the Army Materiel Acquisition Decision Process

**AR 40-61**

Medical Logistics Policies and Procedures

**AR 40-63**

Ophthalmic Services

**AR 50-6**

Nuclear and Chemical Weapons and Material Chemical Surety

**AR 70-25**

Use of Volunteers as Subjects of Research

**AR 70-62**

Airworthiness Qualification of U.S. Army Aircraft Systems

**AR 75-1**

Malfunctions Involving Ammunition and Explosives

**AR 385-14**

Transportation Accident Prevention and Emergency Response Involving Conventional Munitions and Explosives

**AR 385-42**

Investigation of NATO Nation Aircraft or Missile Accidents and Incidents

**AR 385-61**

The Army Chemical Agents Safety Program

**AR 420-90**

Fire Protection and Emergency Services

**AR 708-1**

Logistics Management Data and Cataloging of Supplies and Equipment

**AR 710-2**

Inventory Management Supply Policy Below the Wholesale Level

**AR 750-10**

Army Modification Program

**DODI 6055.1**

DOD Occupational Safety and Health Program (FM&P)

**DODI 6055.2**

Personal Protective Equipment

**EM 385-1-1**

U.S. Army Corps of Engineers Safety and Health Requirements Manual

**FM 100-22**

Installation Management

**TB Med 502**

Occupational and Environmental Health—Respiratory Protection Program

**TB 700-2**

Department of Defense Explosives Hazard Classification Procedures

**Section III**

**Prescribed Forms**

**DA Form 4753**

Notice of Unsafe or Unhealthful Working Conditions

**DA Form 4754**

Violation Inventory Log.

**DA Form 4755**

Employee Report of Alleged Unsafe or Unhealthful Working Conditions

**DA Form 4756**

Installation Hazard Abatement Plan

**DD Form 2272**

DOD Occupational Safety and Health Protection Program

**Section IV**

**Referenced Forms**

**DA Form 11-2-R**

Management Control Evaluation Certification Statement

**DA Form 285**

U.S. Army Accident Investigation Report

Fort Knox Reg 385-10 (23 Apr 04)

**DA Form 285-AB-R**

U.S. Army Abbreviated Ground Accident Investigation Report (AGAR)

**DA Form 348**

Equipment Operators Qualification Record

**DA Form 3645**

Organization Clothing and Individual Equipment Record

**Appendix B**

<b>BLEACHER INSPECTION CHECKLIST</b> <small>For use of this form, see Fort Knox Reg 385-10, the proponent is ATZK-S.</small>		
UNIT :	DATE:	
BLEACHER ID # :	LOCATION:	
<p><b>1. General:</b></p> <ul style="list-style-type: none"> <li>a. Are the bleachers on level ground?</li> <li>b. Are the bleachers leaning to one side?</li> <li>c. When walking on the bleachers, do they feel unstable in any way?</li> </ul> <p><b>2. Structural supports:</b></p> <ul style="list-style-type: none"> <li>a. Are there any signs of corrosion or rot?</li> <li>b. Are there any damaged, loose, or missing cross braces?</li> <li>c. Do any braces protrude past the bench seat edges?</li> <li>d. Are any welds cracked?</li> </ul> <p><b>3. Seat and foot boards:</b></p> <ul style="list-style-type: none"> <li>a. Do seat and foot boards protrude over 20 inches from end of frames?</li> <li>b. Are all seat and foot boards present and securely fastened?</li> <li>c. Are all nuts and bolts present and tight?</li> <li>d. Are any seat and foot boards abnormally bowed?</li> <li>e. Are seat and foot boards splintered, cracked, or termite and insect infested?</li> </ul> <p><b>4. Are bleachers four or more risers high equipped with standard handrails?</b></p> <p><b>5. If no handrail, is the top seat and a 4 inch strip on open sides of bleacher painted yellow?</b></p>	YES	NO
INSPECTOR'S PRINTED NAME:		
SIGNATURE:		
DUTY POSITION:		



Appendix C

<b>POV INSPECTION CHECKLIST</b>			
For use of this form, see Fort Knox Reg 385-10, the proponent is ATZK-S			
OWNER/OPERATOR'S NAME: _____			
UNIT: _____	DUTY PHONE: _____		
YEAR/TYPE VEHICLE: _____	MILEAGE: _____		
<u>ITEM</u>	<u>SAT</u>	<u>UNSAT</u>	<u>REMARKS</u>
<u>LIGHTS</u> a. Headlights	_____	_____	_____
b. Taillights	_____	_____	_____
c. Backing lights	_____	_____	_____
d. Emergency flashers	_____	_____	_____
e. Turn signal indicators	_____	_____	_____
f. Brake lights	_____	_____	_____
<u>GLASS</u> a. Windshield	_____	_____	_____
b. Rear window	_____	_____	_____
c. Rear-view mirror	_____	_____	_____
<u>EXHAUST SYSTEM</u>	_____	_____	_____
<u>WINDSHIELD WIPERS/WASHERS</u>	_____	_____	_____
<u>HORN</u>	_____	_____	_____
<u>STEERING SYSTEM</u>	_____	_____	_____
<u>BRAKE SYSTEM</u> a. Driving brakes	_____	_____	_____
b. Emergency brake	_____	_____	_____
<u>TIRES</u> (including spare and changing equipment)	_____	_____	_____
<u>SUSPENSION SYSTEM/SHOCK ABSORBERS/SPRINGS</u>	_____	_____	_____
<u>OVERALL RATING</u>	_____	_____	_____

		YES	NO
<b>1. PRIVATELY OWNED VEHICLE (4-WHEEL)</b>			
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?		_____	_____
<b>2. PRIVATELY OWNED VEHICLE (2-WHEEL)</b>			
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 garments (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: _____			

Appendix D

FORT KNOX RISK MANAGEMENT WORKSHEET		2. Page of			
1. Organization and Unit Location:		6. Date Prepared:			
3. Mission/Task:		5. End Date:			
7. Prepared By: (Name/Rank/Duty Position/Phone Number)		4. Begin Date:			
8. Identify Hazards (Be specific)	9. Assess the Hazards & Determine Initial Risk Level	10. Develop Controls and Make Decisions (Specific measures taken to reduce the probability and severity of a hazard)	11. Determine Residual Risk Level	12. Implement Controls (Include SOPs, References, OPORD, etc.)	13. Supervise and Evaluate (Continuous, Leader Checks, Buddy System, AAR, etc.)
	L M H E	(Be specific)	L M H E	(Be specific)	(Be specific)
14. Remaining Risk Level After Controls Are Developed: (CIRCLE HIGHEST REMAINING RESIDUAL RISK LEVEL) <b>↑</b>		LOW	MODERATE	HIGH	EXTREMELY HIGH
15. RISK DECISION AUTHORITY SIGNATURE BLOCK: LOW - O-4 level Commander (This authority may be delegated to the next lower level). MODERATE - Lieutenant Colonel or equivalent Commandant NCOA. HIGH - O-6 level Brigade or Regimental Commander or Director, EXTREMELY HIGH - Senior Mission Commander or General Officer rank.					

91.10

PREVIOUS EDITIONS ARE OBSOLETE

FK FORM 5008-E, SEP 03



**Appendix E**

<b>RESPIRATORY PROTECTION REQUEST</b>		
<b>SECTION I (COMPLETED BY SUPERVISOR)</b>		
NAME OF USER	GRADE & SERIES	JOB TITLE
ACTIVITY/DIVISION & BLDG. NO.		SSAN
DESCRIPTION/TYPE OF WORK BEING DONE		
SUPERVISOR'S SIGNATURE	PHONE	DATE
<b>SECTION II (COMPLETED BY INDUSTRIAL HYGIENE SECTION, MEDDAC)</b>		
ASSESSMENT OF EXPOSURE POTENTIAL		
RECOMMENDED PROTECTION <input type="checkbox"/> Half-face Air Purifying <input type="checkbox"/> Powered Air Purifying (PAPR) <input type="checkbox"/> Self-contained Breathing Apparatus (SCBA) <input type="checkbox"/> Other (Describe): _____		
<input type="checkbox"/> Single-use Air Purifying <input type="checkbox"/> Full-face Air Purifying <input checked="" type="checkbox"/> Supplied Air <input type="checkbox"/> ESLI - Recommended change: _____ hours		
INDUSTRIAL HYGIENIST'S SIGNATURE		DATE
<b>SECTION III (COMPLETED BY OCCUPATIONAL HEALTH, MEDDAC)</b>		
Class (check one): <input type="checkbox"/> No restriction on respirator use. <input type="checkbox"/> Specific use restrictions (see below). <input type="checkbox"/> No respirator use is permitted.		
Restriction: _____		
EVALUATING PHYSICIAN'S SIGNATURE		DATE
<b>SECTION IV (COMPLETED BY INSTALLATION RESPIRATORY ADMINISTRATOR)</b>		
Type of Respirator Issued Manufacturer: _____ Model No: _____		
<input type="checkbox"/> Self-contained <input type="checkbox"/> Negative Pressure <input checked="" type="checkbox"/> Powered Air Purifying		
I certify that training has included instruction and practice in leak test, adjustments, visual inspections, hazards involved, cleaning/disinfection and storage principles in accordance with 29 CFR 1910.134.		
RESPIRATOR ADMINISTRATOR'S SIGNATURE		DATE
<b>SECTION V (EMPLOYEE'S STATEMENT)</b>		
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. Require a new fit test if there is any change in facial configuration (e.g., weight loss, etc.).		
EMPLOYEE'S SIGNATURE		DATE

**INSTRUCTIONS FOR COMPLETING THE  
RESPIRATORY PROTECTION REQUEST FORM**

1. The individual supervisor or industrial hygienist identifies the need for respiratory protection.
2. If the individual or supervisor recognizes the need, the Industrial Hygiene Office must be notified by phone or letter. This will give the Industrial Hygiene Office an opportunity to investigate the need.
3. To enroll in a respiratory protection program, the supervisor must complete Section I of the Respiratory Program Request Form.
4. Once the supervisor completes the form, it must be taken to the Industrial Hygiene Office in Building 851, Ireland Army Hospital (IAH) (6th floor), where Section II is completed and signed.
5. The employee must then take the form to the Occupational Health Section, Building 851, IAH (4th floor). The employee will be scheduled for a respiratory physical that will include a pulmonary function test. Once the respiratory physical has been completed, the evaluating physician will sign the form in Section III.
6. Once the signed endorsements from Industrial Hygiene and Occupational Health have been received, the employee takes the form to the Installation Respiratory Protection Administrator at the Armor Branch Safety Office, Bldg. No. 1310-A, Room 312. At the Safety Office, the employee will be scheduled for respiratory training and fit test. On completion of training and fit testing, the Installation Respiratory Protection Administrator will complete and sign Section IV.
7. At this point, the employee must read and sign Section V.
8. It is the responsibility of the employee to properly use and maintain the respirator. It is the responsibility of the employee's supervisor to enforce proper use of the respirator.
9. Copies of this form shall be maintained in the employee's records, the Armor Branch Safety Office, Industrial Hygiene Office, and at Occupational Health.

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% to 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



## 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	

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**X** - Indicates requirement

**O** - Indicates determination is made by the gas detection monitor

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