LEAD REGULATION 385-1

LEAD Safety and Occupational Health Program

DEPARTMENT OF THE ARMY
LETTERKENNY ARMY DEPOT
CHAMBERSBURG, PA 17201-4150

1 JULY 2020

Department of the Army
Letterkenny Army Depot
Chambersburg, PA 17201-4150

LEAD Regulation 385-1

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Safety

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SUPERSEDURE NOTICE: This regulation supersedes LEAD-R-385-1, 5 May, 2017.

Applicability: This program is applicable to Letterkenny Army Depot (LEAD), tenant activities, Department of Defense (DoD) employees, contractors and visitors.

Supplementation: Authorization to supplement this regulation is given to the LEAD Safety Manager for supplementation that is based on regulatory requirements. Otherwise, supplementation is prohibited without prior approval from the Commander of LEAD. This delegation of authority supports the continuous efforts of the Safety and Occupational Health Program at LEAD to provide the most effective program to the employees, contractors, visitors and tenant activities.

Suggested Improvements. The proponent agency of this regulation is the Office of the Commander, Letterkenny Army Depot. Users are invited to send comments and suggested improvements to Commander, ATTN: AMLD-SAF (Safety Office), Chambersburg, PA 17201-4150.

Distribution. LEAD Intranet, AMLD-SAF (10)

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CONTENTS

Chapter 1

Safety and Occupational Health Program

1-1. Purpose. To provide an outstanding Safety and Occupational Health (SOH) Program that protects our Soldiers, employees, contractors, and visitors through an effective and comprehensive Safety and Occupational Health Management System (SOHMS) at Letterkenny Army Depot (LEAD). This regulation prescribes policies, responsibilities, and minimum procedures to protect and preserve LEAD and tenant personnel from injury and property losses.

1-2. References. Required and related publications are listed in Appendix A.

1-3. Policies. The Safety Office will be considered when planning and operating LEAD activities in order to protect employees against occupational injuries and illnesses and to protect LEAD and tenant activities against unnecessary property damage, liability, and reduced efficiency. Everyone is a safety officer. It is everyone's responsibility to identify hazards, stop unsafe acts, and set the example by following safe practices.

a. Provide safe and healthful working conditions at LEAD for all employees, contractors, and visitors.

b. Acquire, maintain, and require the use of protective clothing, equipment, and devices reasonably necessary to protect employees against injury and illness.

c. Ensure employees participate in the SOH Program through the following actions:

(1). Familiarization with and compliance with the standards, rules, regulations, and orders issued by the installation.

(2). Report unsafe and unhealthful working conditions and all injuries immediately to their supervisor.

(3). During duty hours, participate in the activities included in the installation's SOH Program.

(4). Complete required SOH training.

d. LEAD shall comply with the most stringent regulatory requirement set forth by federal, DoD, Army, or applicable consensus standards.

1-4. Safety Awards.

a. The safety awards program is designed to create and maintain the active interest of employees in accident prevention. It further provides an opportunity for directors, managers, and supervisors to give public recognition to deserving employees. Recognition of individual efforts through incentive awards reinforces accident prevention and mission goals. Also individual behavior can be favorably affected through the sense of personal recognition nurtured by the awards program.

(1). The Safety Incentive Award Program.

(a). A safety award ticket will be provided to a government civilian or military employee who is observed performing their duties in a safe manner and going above and beyond the call of duty in regards to safety and occupational health. This includes promoting safety, preventing an accident, or submitting a suggestion, AMLD Form 4294, and entering it into the electronic Hazard Reporting Process (HRP) system. The Safety Office will review, approve, or disapprove all suggestions based on merit. The safety award will entitle government personnel to a gift that has been purchased by the Safety Office when funds are available.

(b). Safety award tickets will be provided on request from supervisors. In addition, the Commander, deputy to the commander, chief of staff, and the Safety Office may present tickets to deserving employees.

(2). Safety Impact Awards procedure:

(a). Supervisors, managers, and directors may at any time submit a DA Form 1119-1 to the Commander for review. The awards will be presented during town hall meetings to highlight the accomplishment of the employee to their peers to inspire esprit de corp.

(b). The DA Form 1119-1 will include the name of the employee and what action was taken or contribution made to support the issuance.

(c). Upon the Commander's discretion, certificates of appreciation, trophies, pins or coins shall be awarded for those contributions.

(d). Awards can be for participation in safety slogan development, participation in safety related activities beyond the normal scope of work, a suggestion that improves safety or has the potential to reduce the injury and illness rate.

1-5. Protection of Employee Rights. No employee will be subject to restraint, interference, coercion, discrimination, or reprisal because of his/her participation in the installation's SOH Program or for reporting unsafe or unhealthful working conditions.

a. Provisions to ensure protection against reprisal:

(1). Individual Anonymity, when requested.

(2). Prompt, impartial investigation of allegations of reprisal.

(3). Administrative actions when such allegation are substantiated.

b. The use of the inspector general channels to investigate allegations of reprisal is appropriate for military and civilian complaints in accordance with DoDD 5106.01

c. Civilian personnel have the right to file a grievance through an administrative grievance procedure in accordance with Volumes 771 and 2014 of DoDI 1400.25 and Labor Management Agreements.

d. In accordance with 29 CFR 1960 employees have the right to decline to perform an assigned task because of a reasonable belief that, under the circumstances the task poses an imminent risk of death or serious bodily harm and there is insufficient time to seek effective redress through normal hazard-reporting and abatement procedures. In this situation, both the affected personnel and local management are entitled to the considered opinion of a qualified industrial hygiene, safety engineer, health physicist, safety, fire prevention, or health professional, as applicable, on the extent of the hazard.

e. Employees of LEAD that are engaged in SOH program related activities to include but not limited to, safety council or committee meetings, JSA development, area inspections, or involvement in an OSHA inspection are authorized official duty time.

f. Any employee or designated representative may request and shall be furnished with copies of the OSH Act, Executive Order 12196, program elements published under 29 CFR, details of the LEAD's occupational safety and health program, and applicable safety and health standards.

g. A copy of LEAD's written occupational safety and health program applicable to the establishment shall be made available to each supervisor, each occupational safety and health committee member, and to employee representatives.

h. All employees have the right and are encouraged to self-identify underlying medical conditions that may pose a risk to their safety. If an employee chooses to self-identify, the employee will be referred to the clinic

for an assessment to determine if the underlying conditions require job restrictions or limitations. If an employee seeks a reasonable accommodation for his/her medical condition, all such requests will be processed in accordance with LEAD's reasonable accommodation program and/or AR 690-12 and 5 CFR 339.

i. Employees who believe they are pregnant or breast feeding have the right to self-declare. In accordance with 10 CFR part 20 the declaration must be in writing, and will be kept on file until the declaration is withdrawn or declaration expires (1 year from the date of declaration). The self-declaration shall include the name of the employee and the estimated date of conception. Once a declaration is received the supervisor will not assign tasks that require using fall protection and limit the employee's exposure to radiation.

1-6. Department of Defense Safety and Occupational Health Program. Each work area will have DD Form 2272, Safety and Occupational Health Program, visibly posted on the area's official bulletin board. The DA Form 4755, Employee Report of Alleged Unsafe or Unhealthful Working Conditions, will be available in work areas and only posted on area safety information boards when required. The DD Form 2272 outlines employer and employee responsibilities and rights concerning the Safety and Occupational Health Program.

1-7. Responsibilities.

a. The Commander is responsible for ensuring the establishment and maintenance of an effective SOH program. The Commander will ensure budgeting for Personal Protective Equipment, SOH training, ensure adequate staffing of SOH professionals. Publish annual SOH program goals based on trends. Ensure SOH staff schedule and conduct annual inspections of all LEAD facilities and work areas.

b. LEAD Safety Manager serves as the principal staff advisor and technical consultant coordinating with the Commander on all safety issues. The Safety Manager shall ensure all baseline hazard assessments have been conducted and update as new processes are added or conditions change. Maintain the hazard abatement log and ensure all identified hazards have an associated Risk Assessment Code (RAC) in accordance with MIL-STD-882.

c. Contractors will comply with the Occupational Safety and Health Administration (OSHA) standards and LEAD safety rules and regulations. They will have available a copy of their company's safety plan or hazard analysis for the job to be performed before starting work at LEAD.

d. Directors, division chiefs, chiefs of tenant activities, and all supervisors will comply with OSHA and LEAD safety policies and regulations. Additionally, they are responsible for safety within their areas of operation to the same extent that they are responsible for production or services. They will ensure that employees are aware of their rights and responsibilities under current Safety and Occupational Health guidelines.

e. Supervisors will:

(1). Be responsible for identifying and dealing with potential hazards through the development and maintaining of Deliberate Risk Assessment Worksheet (DRAW), DD Form 2977. Reference Chapter 2 of this document for instructions. Safety Office personnel are available for technical assistance.

(2). Be cognizant of the inter-relationships between different operations under their supervision to be sure that hazards are not transferred from one work station to another. This requires continual review of all operating procedures and methods and can be accomplished by performing Job Safety Analysis (JSA) on job processes.

(3). Ensure work processes, work cell procedures, and/or SOPs are reviewed annually by each employee and new employees before engaging in operation. JSA will be updated when a significant change takes place in existing operations. Reference paragraph 1-9. Processes must be approved before a new operation begins.

(4). Investigate, report, and document (if appropriate), employee complaints of known or suspected safety hazards. Promptly advise employees of planned corrective action(s) to eliminate the hazards. If an

employee is dissatisfied with the corrective action(s) taken, advise the employee of their right to request that the condition be further investigated.

(5). Ensure quarterly safety inspections are completed by using Hazard Report Form and AMLD Form 4294. After inspection, enter any findings in the electronic Hazard Reporting Process (HRP) system. Employees who complete this or any other required safety inspection on behalf of the supervisor will receive OSHA general industry training prior to completing the inspection. A Safety and Occupational Health specialist will review corrective actions and close reports once an adequate corrective action has been input into the HRP system. Overdue corrective actions will be forwarded to directors for review and action. AMLD Form 4614 (Office Area Safety Inspection Checklist), AMLD Form 4614-1 (Industrial Area Safety Inspection Checklist), and AMLD Form 4614-2 (Outdoor Inspection Checklist) may be used to assist in the inspection.

(6). Ensure that all employees follow and uphold all safety rules, regulations, laws, and procedures; initiate appropriate disciplinary action against all violators.

(7). Conduct and document weekly safety meetings with all employees. Documentation will be on a training attendance sheet or similar record. Maintain a record of these briefings for a period of at least one year. Ensure all weekly safety meetings are conducted within the first two days of every work week or the morning of the third day. Meetings held after this time frame will be limited and fully justified in writing on the sign-in sheet. Weekly safety meeting leader will also record meeting on the LEAD safety page under “Report Weekly Safety Meeting.” The Safety Meeting Central (SMC) on the Safety Office portal page will be the primary source for weekly meeting topics. Meetings will consist of a review of all recent LEAD accidents, regardless of applicability, and a review of all applicable industrial, office, and hot safety topics.

(8). Ensure all required employees attend the OSHA General Industry Training in accordance with Chapter 5.

(9). Ensure new and reassigned employees receive a worksite safety orientation that includes a review of the fire evacuation plan, eyewash stations, break area, safety communication binder, applicable JSA’s, and medical surveillance if needed.

f. Employees will:

(1). Actively participate in the development of local safety and health regulations, JSAs through suggestions and discussions at the weekly staff/stand-up safety meetings, direct work on JSA/work procedures, and at organizational monthly safety committee meetings.

(2). If serving as a safety team member, coordinate and lead in addressing LEAD safety issues.

(3). Follow safety rules, acknowledge and assist in the efforts to correct hazards, and observe the following:

(a). Report hazards and unsafe conditions to their supervisors.

(b). Report all accidents, near misses, and injuries, no matter how slight, immediately to the supervisor.

(c). Keep work and break areas clean and orderly.

(d). Dress according to the conditions in which they work, to include wearing safety shoes, safety glasses or goggles, gloves, hearing protection, or other required personal protective equipment (PPE).

(e). Refrain from participating in horseplay.

(f). Smoke only in designated smoking areas.

(g). Attend scheduled SOH training.

(h). Be familiar with work procedures, DRAW, and/or JSAs at the immediate work station and be familiar with the hazard control measures associated with all job tasks.

1-8. Commander's Combined Safety and Occupational Health Council.

a. Meetings will be conducted in a structured format with minutes documenting old and new issues and held quarterly.

b. A charter covering the council code of conduct, membership, frequency, responsibilities, and other pertinent information shall be developed and signed by the Commander.

c. The Commander will serve as chairperson. The LEAD safety manager will serve in a dual capacity as advisor and facilitator and will disseminate the meeting minutes. The council will include the following members: All directors, installation medical officer, industrial hygienist, Fire and Emergency Services Division Chief, environmental officer, Federal Employee Compensation Act administrator, safety specialists, union representatives, and others as determined by the Commander.

d. Council Members will:

(1). Aid in review of the SOHMS objectives in determining its adequacy, effectiveness, and methods for improvement.

(2). Become familiar with the personal injury experience and the potential hazards that might cause injury.

(3). Devise ways and means to eliminate unsafe acts, unhealthy conditions, and to correct unsafe mechanical and physical conditions.

(4). Plan to strengthen the safety program through training or promotional efforts designed to create interest in accident prevention.

(5). Review the management review requirements outlined in the LEAD Safety and Occupational Health Management System (SOHMS) Manual.

1-9. Job Safety Analysis (JSA) Procedures.

a. Job Safety Breakdowns (JSB) are no longer an authorized or recognized document. Hazards of processes, machines, or work practices will be documented using Job Safety Analysis (JSA) AMLD Form 4040. Note that AMLD Form 4040 is only available through the JSA SharePoint workflow.

b. The LEAD Safety Office will develop and manage LEAD wide standardized JSAs. The purpose of standardized JSAs is to eliminate redundancies in common tasks, ensure consistency in safe working practices LEAD wide, and improve communication of JSA changes. LEAD wide JSAs will be identified with a cost center number of 00000. Each work area supervisor will be responsible for ensuring the development and maintenance of all work area specific JSAs as outlined paragraph 1-7 d.

c. Approved and signed JSAs and the JSA Annual Review Record (AMLD form 4161) will be posted in a binder or similar document holder on the cost center production board. Cost centers that do not maintain a production board will post their JSAs in their respective safety communication binder.

d. A JSA must be created or updated when hazards have been identified or eliminated within a process. The JSA will outline the corrective action and preventative action of the new or changed hazards or the need for new or changed controls. The cost center will conduct a risk assessment and corrective action plan and document findings in a JSA prior to starting work. Situations that require a JSA to be created or updated include:

(1). Establishment of a new process.

(2). A process changes in a way that adds or removes hazardous conditions.

(3). An accident or injury occurred as a result of inadequately identifying hazards in the JSA.

(4). An outdated JSA is being used.

NOTE

JSA's do not need re-rewritten when the supervisor changes. The JSA only needs updated if one of the above conditions exists.

(5). JSA will be revised and resigned at least every 5 (five) years.

e. Work areas that employ alternative job hazard identification methods and corrective actions such as Standing Operating Procedures (SOP) or detailed work instruction (WI) are not required to duplicate information that would otherwise be covered in a JSA. In order to appropriately replace a JSA, the SOP or WI must address the same elements as a JSA and there must be a documented review process.

f. JSA completion process:

(1). The JSA process is an electronic system that has been designed to automate the review and approval process of JSAs. All new or changed JSAs will be processed electronically through this system which is located on the Safety Office portal page.

(2). Employees will:

(a). Work together with other employees familiar with the process to write the JSA.

(b). Complete electronic AMLD Form 4040 or work directly with another employee to complete the electronic form to be sent to the supervisor for approval. Instructions for completing the form are located on the form itself.

(c). Report any and all inaccuracies in JSA's to the area supervisor.

(3). Supervisors will:

(a). Thoroughly review the JSA to ensure that all hazards have been identified. The supervisor has seven calendar days to review and approve/disapprove the JSA. After seven days, the supervisor will be contacted by the Safety Office.

(b). Ensure that all identified hazards have been adequately abated and documented in the JSA.

(c). Electronically sign and approve the JSA before submitting the form to Industrial Hygiene (IH).

(d). Provide employees the necessary tools, materials, equipment, time, and/or guidance to adequately protect them from identified hazards.

(e). Ensure that employees review applicable JSA's annually and document their review on AMLD Form 4161.

(f). Not permit employees to begin work on a process without first establishing a JSA and allowing employees adequate time to review and understand the JSA. Review of JSA's must be documented on AMLD form 4161 prior to employees starting work.

(g). Not complete the JSA analysis itself and sign the "Analysis By" block. This must be done by employees familiar with the process.

(4). The Industrial Hygiene (IH) office will:

(a). Review all JSAs to verify that health hazards have been adequately identified and abated through a clearly written JSA document.

(b). Approve/disapprove JSAs within seven calendar days.

(c). Work with cost centers and the Safety Office to ensure that employees are adequately protected from identified health hazards through engineering, administrative, and/or personal protective equipment controls.

(5). The Safety Office will:

(a). Review all JSAs and verify that the JSAs have adequately identified and abated known hazards through a clearly written JSA document.

(b). Approve/disapprove within seven calendar days.

(c). Work with cost centers and the IH office to ensure that employees are adequately protected from identified safety and health hazards through engineering, administrative, and/or personal protective equipment controls.

(d). Log the completed and approved JSA in the JSA library on the safety portal.

g. While the purpose of JSAs are to identify hazards within a process, they are not intended to be a detailed work instruction. As a result, certain elements of a job task are optional and not required as part of the JSA process. However, if these optional items are input into the JSA, they must be appropriately updated to reflect changes. Examples of optional items are as follows:

(1). Tasks or operations that do not contain hazards, or contain hazards that are minor in nature. Examples include handling of paperwork that could cause paper cuts, or walking between work areas where an employee could trip over their own feet.

(2). Chemical specific PPE such as rubber aprons or goggles will be optional for LEAD JSAs. In an effort to continuously improve LEAD process, chemicals may change regularly thereby changing PPE requirements. The source for chemical specific PPE is covered within the specific chemical Safety Data Sheet (SDS) or Hazardous Material Approval Group (HMAG) form and will be the primary reference for chemical PPE requirements. Documenting chemical specific PPE requirements in a JSA is redundant and may result in inappropriate donning of PPE for a specific chemical.

1-10. System Safety. System safety is the use of engineering and management principles to develop new criteria and techniques that will optimize safety within the constraints of operational effectiveness, time, and cost throughout all phases of a system or facility life cycle.

a. The developing agency of equipment or facilities has the prime responsibility for the determination of its safety. Safety aspects will be incorporated into the LEAN six sigma processes.

b. LEAD elements have responsibilities as follows:

(1). Safety staff will:

(a). Review all engineering drawings and specifications for new construction, major modifications and layout of operating facilities, machinery, and equipment in order to certify compliance with the general industry safety and health regulations, codes, and standards.

(b). Ensure that warnings, cautions, limitations, and procedures necessary to avoid hazards are included in maintenance technical manuals and other related documents.

(c). Review all work orders, SOPs, and JSAs.

(d). Review specifications for operating machinery equipment, PPE, and machine guards.

(e). Investigate accidents to determine cause factors and proper corrective action to uncover equipment failure, material deficiencies, or need for improvements.

(f). Establish safety requirements for equipment, items, and/or services to be procured using military standards.

(g). Identify potential hazards involving new processes or common processes in areas such as: toxic materials, cleaning fluids, flammable materials, corrosives, explosives, extreme temperatures, welding, hoisting, handling, and assembly.

(h). Perform system safety analyses on hazardous operations using those analytical techniques that are judged most suitable to each operation.

(2). Directors, office chiefs and chiefs of tenant activities, coordinators, project officers, and engineering program managers will:

(a). Furnish the Safety Office with copies of test plans and results, solicitation documents and other procurement type data, construction project data, and procedures for maintenance modifications, rebuild, and disposal of materials, etc.

(b). Coordinate with the Safety Office to ensure that each program/project incorporates the maximum degree of safety consistent with operational requirements.

1-11. LEAD Safety Bulletins.

a. LEAD safety bulletins are a tool for the Safety Office to quickly distribute essential safety program information to LEAD without requiring immediate or frequent changes to local LEAD regulations.

b. Safety bulletins will be incorporated and published into LEAD regulations based on applicable timelines set by the Safety Office. This procedure will allow the LEAD Safety Office to keep the workforce informed of all safety program changes in an effective and timely manner.

c. LEAD safety professionals will write and review draft safety bulletins which outline changes or additions to the LEAD safety practices or other critical safety information for distribution to LEAD. The numbering of the bulletins will contain the fiscal year published and bulletin number (i.e. 19 – 01). The safety manager will approve the bulletin for distribution to the workforce.

(1). If the bulletin contains only revisions and changes, the safety specialist, when possible, will cross reference the updates to the appropriate regulation in the bulletin to ensure the changes are clearly cross-referenced from the bulletin to the applicable LEAD regulation.

(2). If the bulletin contains only new policies and procedures to be incorporated into LEAD regulations, no references will be required.

d. Once approved by the safety manager, the safety bulletin will be distributed to the workforce through the SMC and email distribution as needed.

e. Once a bulletin is incorporated into the applicable local regulations an updated copy of the regulation will be distributed to LEAD. At this point, the safety bulletin will no longer be used as a reference and will be removed from circulation.

1-12. OSHA Representative Visits.

a. The purpose of this section is to help employees and supervisors understand the steps necessary for maintaining a healthy and cooperative relationship between LEAD and OSHA.

b. OSHA compliance officers are required to enter installations and facilities to conduct investigations and assess alleged workplace hazards. These inspections are necessary and required by federal law in accordance with OSHA regulations.

c. All OSHA representatives will be directed to the LEAD Safety Office. The LEAD Safety Office may be reached at 717-267-5253.

d. During meetings with OSHA personnel, the LEAD Safety Office will serve as the liaison between OSHA and LEAD management.

e. OSHA may request to interview employees during the course of an inspection, these interviews are exempt from management or Army counsel presence. However, In the event that OSHA requests to speak with a supervisor or manager, LEAD SOH personnel and legal counsel may be present.

f. The Safety office will promptly notify the union of OSHA's presence and invite them to participate in all OSHA activities.

1-13. Industrial Hygiene (IH) Reports.

a. All IH testing and sampling will be completed by the LEAD IH Office and forwarded to the LEAD Safety Office and to applicable directors, division chiefs, and branch chiefs.

b. The affected cost center will review all IH reports with affected employees within the area. Employees will sign an employee roster indicating their review or briefing of all applicable IH reports. The training roster will be attached to the IH report and placed within Tab 13 of the safety communication binder.

1-14. Notification of Change.

a. Definitions:

(1). **Change Agent:** The person responsible for facilitating the purchase or relocation of equipment or implementing the major process change/reorganization. This may be a supervisor, engineer, or LEAN facilitator.

(2). **Change:** The addition, modification, alteration, or relocation of equipment or processes which presents new or different hazards to employees.

(a). **Equipment Change:** Equipment that is different in design and/or function than any other pieces of equipment within a work area. May include new or used equipment additions where employees have little to no experience with the equipment.

(b). **Process Change:** A change in a shop or office environment including but not limited to shop moves, new equipment, and reorganizations. These work process changes could pose new or different hazards than current work area operations and processes. Processes that include the major change of product flow, movement of processes to another building or reduced foot print of current processes, or major changes in work instructions. Additional examples include the movement of welding or gas cutting operations, reductions in workspace, and changes in processes that adversely affect ergonomics, noise level changes, or air quality changes.

NOTE

If a process is being accomplished in one area at LEAD, it does not mean that all areas at LEAD may participate in the same or similar process. One example would be a lathe outside of the machine shop.

(3). **Notification of change:** The procedure by which changes will be reviewed in order to ensure due diligence has been given to the change in order to reduce the risk of employee exposure to hazards.

b. Notification of change process.

(1). Any time a work area undergoes a change, as defined above, AMLD Form 4461, Notification of Change, will be completed. All forms will be completed electronically on the Safety Office portal page.

(2). The change agent will create the change title, the process owner, location effected by the change, and a description of the change in as much detail as possible. There is also the ability to include attachments, if needed, to facilitate the change appropriately.

(3). The offices identified below will automatically be selected and notified. Each office will receive an automated message to review the proposed change. The reviewing offices include:

(a). Process Owner

(b). Safety Office

(c). IH Office

(d). Fire Department

(e). Production Engineering

(f). Industrial Equipment Maintenance

(g). Test Equipment Maintenance

(h). DPW Engineering

(i). DPW Environmental

(j). DOIM

(k). DES

c. Responsibilities.

(1). The change agent and the following stakeholders identified above in paragraph 1-13 b (3) will:

(a). Review and understand the change and provide the change agent with direction to meet the requirements of their stakeholder entity.

d. Exemptions: The following changes are exempt from the notification of change process as review mechanisms are already in place for these changes.

(1). Movement of Hazardous Material (HAZMAT) cabinets

(2). New chemical purchases (HMAG Approval)

(3). DPW Work and Service Orders; FEMS requests

(4). New Business Development (Owned by the Business Development Office)

Chapter 2

Risk Management Program

2-1. Purpose. Define how the Army's Risk Management requirements outlined in the references below will be implemented at LEAD. Army's Risk Management methodology specifies the establishment of initial and residual risk levels, as well as appropriate risk acceptance authority through the use of DD Form 2977.

2-2. References.

a. DA PAM 385-30 Risk Management

b. AR 385-10 The Army Safety Program

c. DA PAM 385-10 Army Safety Program

2-3. Definitions.

a. **Formal Risk Assessment:** A documented risk assessment using DD Form 2977 that has been reviewed by the chain of command, signed by the risk acceptance authority, and posted within Tab 22 of the cost center safety communication binder.

b. **Hazard:** A condition that has the potential for causing a loss, such as injuries to personnel or damage to government property.

c. **Loss:** Any reduced value to the government including injuries sustained by personnel and/or damage to government owned property.

d. **Risk:** The probability and severity of loss linked to hazardous working conditions or operations. It is the measure of the expected loss from a given hazard, group of hazards, or operation usually estimated as the combination of the likelihood (probability) and consequences (severity) of the loss.

e. **Risk Acceptance Authority:** The grade or rank of Army leadership that has the authority to accept a level of risk.

f. **Risk Assessment:** An evaluation of a risk which evaluates a hazard's severity and probability of loss for an operation or series of operations.

g. **Undocumented Risk Assessment:** A Risk Assessment that has been completed mentally, hand written on paper, or electronically that results in an estimated initial and residual risk. The purpose of this type of assessment is to assist the person conducting the assessment in determining the level of emphasis and priority that will need to be placed on completing a formal risk assessment with an appropriate risk acceptance authority accepting the residual risk level.

2-4. Responsibilities.

a. Directors will:

(1). Oversee subordinate operations to validate that formal risk assessments have been completed by all applicable operations, accept risk in accordance with Table 2-1, and elevate all risk assessments that exceed their risk acceptance level.

(2). Take immediate action to address operations that have not been appropriately assessed for risk in accordance with this program.

b. Supervisors will:

(1). Ensure that formal risk assessments are completed for all non-administrative operations under their responsibility.

(2). Not permit operations and equipment to be operated that have not been appropriately assessed for risk in accordance with this program.

(3). Ensure all subordinate operations adhere to the requirements of this program.

c. The Safety Office will support all activities in the assessment of risk by providing technical consultation in the area of Safety and Occupational Health. The Safety Office possesses no risk acceptance authority.

2-5. Policy.

a. Risk Management is the Army's principle risk reduction methodology and will thereby be utilized by all LEAD personnel to manage the risk posed by the mission requirements of LEAD.

b. All LEAD supervisors will complete Army Risk Management Basic training (Army Learning Management System) within 60 days of being assigned as a supervisor.

c. All LEAD supervisors will have performance standards that incorporate Risk Management that are Specific, Measurable, Achievable, Realistic, and Timely (SMART).

d. Leaders at all levels will analyze and assess the risk of all subordinate operations, with the exception of those that are administrative in nature. All formal risk assessments will be conducted utilizing DA Pam 385-30 and DD Form 2977 or approved equivalent. Risk assessments will consider all operations and associated hazards that could result in a loss to the government. Risk assessments may consider a single operation within an organization or multiple operations that are similar or logically connected.

e. A formal risk assessment using DD Form 2977 will be completed in the following situations:

(1). Each LEAD cost center that possesses operations, other than administrative operations, will establish a baseline formal risk assessment. At least one DA Form 2977 will be completed and signed by the risk acceptance authority for each applicable cost center. One risk assessment can cover multiple operations. Additional risk assessments may be completed to logically assess distinctly different operations in order to properly assess risk. The actual number of risk assessments will be determined by the chain of command with support from the LEAD Safety Office.

(2). Administrative employees that work primarily in administrative operations, but visit non-administrative operations to perform their assigned duties will conduct a formal risk assessment. Examples include engineers, shop coordinators, and contracting officer representatives. Employees who conduct infrequent trips to non-administrative work areas will conduct an undocumented risk assessment prior to each trip. Frequent is defined as more than 3 visits per week lasting more than 3 hours. Note that the definition of frequent is a general guide and not a hard rule. Formal risk assessments are recommended for every work area despite the number and frequency of visits to non-administrative operations.

(3). When new processes or pieces of equipment are being considered within a work area, the baseline risk assessment will either be revised, or a supplemental risk assessment will be completed. This risk assessment will either be documented on a separate DD Form 2977 or be added to a cost center's existing DD Form 2977. Once the new process or equipment has been implemented and proven, a revised baseline risk assessment will be completed, if applicable.

NOTE

New processes and equipment are inherently more dangerous than mature processes and equipment; therefore, it is preferred that new processes and equipment have their own risk assessment until the new process and equipment has been proven over an appropriate amount of time. Risk assessments cannot be utilized to accept risks that violate regulatory or statutory laws.

f. All risk assessments will consider the following elements:

(1). Employee training required to complete the job.

(2). Formal documents such as Job Safety Analyses (JSAs), National Maintenance Work Requirements (NMWRs), Depot Maintenance Work Requirements (DMWRs), Technical Manuals (TMs), Standing Operating Procedures (SOPs), and Work Instructions (WIs).

(3). Employee and leadership considerations such as lone workers, employee competency (knowledge, skills, and abilities), leadership competency (knowledge, skills, and abilities), hazards of new employees, and employee complacency.

(4). Facilities, vehicles, and equipment considerations.

(5). Supporting programs such as Confined Space Entry, Lockout/Tagout, and Lead, Cadmium, and Chromium.

g. In accordance with Table 4-1 Note 1 of DA PAM 385-30, the Commander of LEAD delegates risk acceptance authority to LEAD directors for all low risk operations with durations greater than 1 year. Reference Table 2-1 of this document.

h. Leaders at all levels will take immediate appropriate action to address inadequately developed risk assessments or the absence of a risk assessment if required by above paragraph 2-5 e. If an inadequate or absent risk assessment is identified in an operation that is occurring, the supervisor shall conduct an undocumented risk assessment immediately to determine a Risk Assessment Code (RAC). If the operation has a residual risk greater than low, the operation will be halted immediately until the appropriate risk acceptance authority has taken responsibility for the operation in accordance with Table 2-1. In this scenario, operations with a residual risk of low will be assessed and approved by the risk acceptance authority within 15 calendar days.

i. All DD Form 2977s will be routed through the directorate's chain of command and any residual risk will be accepted by the appropriate risk acceptance authority in accordance with Table 2-1. All completed and signed risk assessments for a work area will be maintained within Tab 22 of the cost center's safety communication binder. All risk assessments will be reviewed with all affected employees at least annually. Employee review of risk assessments will be documented on AMLD Form 2585 or similar training record and posted along with the risk assessment in Tab 22.

j. All DD Form 2977s will be updated and resigned by the appropriate risk acceptance authority at least every two years or when any person within the chain of command changes. Updates to DD Form 2977 will be completed prior to the expiration of the two year period and within 30 calendar days of the change in leadership below the director/deputy director level and within 90 days of a change to the risk acceptance authority, director or above.

k. Undocumented risk assessments may be used to complete operations that are not covered on a formal risk assessment so long as the operation is considered temporary, less than 1 month, the residual risk is low, and the operation aligns with the current mission of the cost center. For new or different operations that fall outside of the mission scope of the cost center, the supervisor will complete a formal risk assessment and have it signed by the appropriate risk acceptance authority in accordance with Table 2-1 before beginning the new or different operation.

Table 2-1. Risk Acceptance Matrix.

	Duration of Risk			
	Event waiver	**Waiver**		**Exemption**
Category of risk	1 month or less	1 month to 1 year	1 year to 5 years	Permanent or greater than 5 years
Extremely high risk	AMCOM CG	Army Headquarters Commanding General (CG)	Army Headquarters CG	Army Headquarters CG
High risk	LEAD Commander	AMCOM CG	AMCOM CG	AMCOM CG
Medium risk	Director GS-13 or GS-14	LEAD Commander	AMCOM CG	AMCOM CG
Low Risk	First Line Supervisor	Director GS-13 or GS-14 *May be delegated 1 level	Director GS-13 or GS-14	Director GS-13 or GS-14

2-6. Deliberate Risk Assessment Worksheet. All DD Form 2977 completed by the first line supervisor and approved by the appropriate risk acceptance authority will serve as a risk profile for a given cost center.

2-7. Risk Assessment Code Matrix. Table 2-2

a. Descriptions for Table 2-2

(1). Hazard Severity

(a). **CATEGORY: I – CATASTROPHIC:** Death, unacceptable loss or damage, mission failure, or unit readiness eliminated.

(b). **CATEGORY: II – CRITICAL:** Severe injury, illness, loss, or damage; significantly degraded unit readiness or mission capability.

(c). **CATEGORY: III – MODERATE**: Minor injury, illness, loss, or damage; degraded unit readiness or mission capability.

(d). **CATEGORY: IV – NEGLIGIBLE:** Minimal injury, loss, or damage; little or no impact to unit readiness or mission capability.

(2). Accident Probability

(a). **LEVEL A: FREQUENT:** Continuous, regular, or inevitable occurrences.

(b). **LEVEL B: LIKELY:** Several or numerous occurrences.

(c). **LEVEL C: OCCASIONAL:** Sporadic or intermittent occurrences.

(d). **LEVEL D: SELDOM:** Infrequent occurrences.

(e). **LEVEL E: UNLIKELY**: Possible occurrences but improbable.

Table 2-2. Risk Assessment Matrix.

E = Extremely High Risk H = High Risk M = Medium Risk L = Low Risk			PROBABILITY				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	B	C	D	E
SEVERITY	CATASTROPHIC	I	E	E	H	H	M
	CRITICAL	II	E	H	H	M	L
	MODERATE	III	H	M	M	L	L
	NEGLIGIBLE	IV	M	L	L	L	L

2-8. Hierarchy of Controls. Table 2-3

a. Descriptions for Table 2-3

(1). **Elimination:** Although not always feasible, physically removing the hazard completely from the facility is the best option for keeping workers safe.

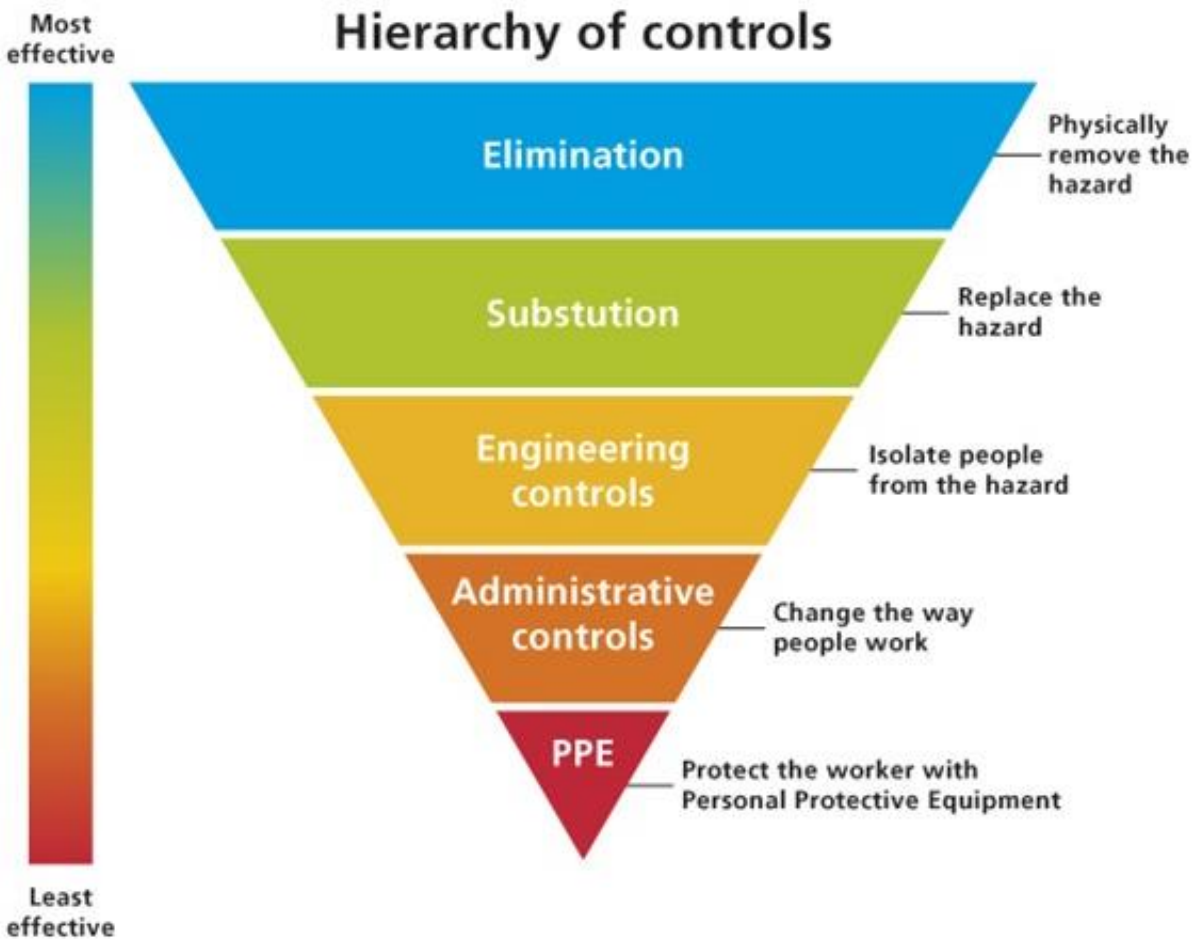
(2). **Substitution:** The second most effective route for controlling hazards is by replacing the hazard with a less dangerous substitute.

(3). **Engineering Controls:** Instead of eliminating the hazard, engineering controls work to keep people away from the hazard. Common examples include machine guarding, modifying equipment, ventilation systems, etc.

(4). **Administrative Controls:** This type of control works to change the way work is done. It includes changing or implementing policies and procedures, employee training, maintenance, and more.

(5). **Personal Protective Equipment:** Finally, personal protective equipment (PPE) is considered the least effective in the hierarchy. PPE includes any piece of clothing or equipment worn by workers that acts as a barrier between them and the hazard. Because PPE has a chance of failing, it should never be the only hazard control used.

Table 2-3. Hierarchy of Controls.



Chapter 3

Reporting and Investigating Army Accidents

3-1. Purpose. Provides policies and procedures and assigns responsibilities for the notification, investigation, and reporting of LEAD accidents and near misses. It establishes policy for the prompt notification of all accidents and ensures proper investigation for all accidents. The causes of all accidents should be determined and corrective measures developed and implemented to prevent recurrence. The primary purpose of investigating and reporting Department of the Army (DA) accidents is prevention.

3-2. Definition of Roles.

a. **LEAD Safety Office:** Develops and establishes processes to conserve Army resources, personnel and property, through accident prevention. The results of a Safety Office investigation may be used for accident prevention purposes only. Under no circumstances may a Safety Office report be used to determine negligence for the purpose of liability or disciplinary action. However, the investigating safety professional may utilize any other documents to assist in their investigation and accident prevention measures.

b. **LEAD Security Force's/Police's:** Response and investigation any accident to determine if there is a violation of law, regulation, command policy, etc.

c. **Financial Liability Investigations of Property Loss (FLIPL):** Process to determine liability and accountability for property damage or loss.

3-3. Definition of Key Terms.

a. **Accident:** An event that results in government property being damaged or an injury sustained by a person regardless of person's employer. Determinations will be made by the Safety Office whether a property damage incident is an Army accident.

b. **Incident:** An event which has yet to be classified as an accident or personal medical event.

c. **Personal medical event:** A medical event which is not work related such as an employee experiencing a heart attack or stroke.

CAUTION

All persons involved with reporting and investigating accidents must take appropriate measures to conform to Army standards for protecting PII. Reference AR 25-22, Chapter 5.

3-4. Post Incident Phase 1. Incident notification requirements: The following will occur immediately or as soon as possible following an incident.

a. An employee who is involved in or witnesses an incident will:

(1). Obtain emergency care for injured employees when required.

(2). Report the incident immediately to the supervisor directly responsible for the operation, material, or person(s) involved.

b. The supervisor responsible for the employee or activity involved in an incident will:

(1). Immediately obtain medical attention for injured employee(s) if it has not already been requested.

(2). Secure the scene of the accident to prevent further property damage or injury. DO NOT move material or equipment unless it presents a hazard to employees or equipment.

(3). Highly encourage all injured employees to visit the LEAD Clinic following a work related injury or illness.

(4). Notify the Safety Office of all incidents by calling (717)-267-5253. A message will be left if no one answers, including off shifts.

(5). Notify the LEAD Police Desk of all property damage accidents or incidents by calling (717)-267-8800. The LEAD Police Desk will, as soon as possible, create and send an executive summary (EXSUM) to the Command Team on the accident/incident.

(6). Notify the property owner or injured employee's chain of command to the directorate level in accordance with internal directorate reporting procedures.

(7). Notify the Contracting Officer Representative (COR) if a contractor employee is involved in the incident.

(8). Follow the reporting and notification procedure requirements outlined in directorate level Standing Operating Procedures (SOP) for accidents involving ammunition and explosives.

(9). As soon as practicable, but not to exceed 2 hours without a documented reason, ensure the holder of a Commercial Driver's License (CDL) is drug and alcohol tested in accordance with 49 CFR 382.303 after an accident involving a vehicle requiring a CDL. The accident must have resulted in a fatality, bodily injury requiring immediate medical treatment away from the accident scene, disabling damage to any vehicle requiring towing, or the driver receives a moving traffic violation as a result of the accident. Questions concerning drug and alcohol use should be reviewed with LEAD's Army Substance Abuse Program coordinator.

c. The LEAD Police Desk will follow the appropriate Police and Security Policy and notify the following offices of all incidents.

(1). The Safety Office by calling (717)-267-5253. A message will be left if no one answers, including off shifts.

(2). LEAD photographer: In the event the LEAD photographer is not available, the responding security or police officer will take pictures of the accident scene. All accident scene photos will be forwarded to the Safety Office, the supervisor owning the damaged equipment, and DES.

d. The Safety Office will:

(1). Ensure security is notified of all property damage accidents and incidents involving an employee being transported for medical care by calling (717)-267-8800.

(2). Monitor all supervisor/employee updates in the Accident /Incident Tracking Database.

(3). Conduct a preliminary incident investigation as the situation warrants. Note that the Safety Office may not visit the scene of an incident depending on the circumstances of the incident.

(4). Notify any applicable stakeholder offices of an accident which requires a special assessment prior to permitting an accident scene to be released for normal operations. This includes but is not limited to: DPW, Industrial or Test Equipment Maintenance, or any other entity that has special or technical knowledge of a facility, machine, equipment, or vehicle.

3-5. Post Incident Phase 2. Documentation and process initiation: The following will occur within the time frame indicated by each paragraph below:

a. The operator of any GSA vehicle involved in an accident will complete Standard Form 91, Motor Vehicle Accident Report, immediately following an accident. This form is usually found in the glove box of the GSA vehicle. The completed SF 91 will be provided to the vehicle operator's supervisor as soon as possible.

b. The supervisor responsible for the employee or activity will:

(1). Complete the electronic AMLD 3281-1, Initial Incident Notification, within 2 hours of the incident. This form is required for all incidents as defined above. The AMLD 3281-1 is an electronic form on the Safety Portal filled out through the Report Accident/Incident link. If the database is unavailable the supervisor or lead will contact the Safety Office via telephone or email.

(2). Within 48 hours of the accident, complete the electronic AMLD 3281-2, Incident Statement of Events form. Updates can be made to the form after employee(s) return to work if need. The AMLD 3281-2 is an electronic form on the Safety Portal filled out through the Report Accident/Incident link. If the database is unavailable, the supervisor or lead will contact the Safety Office via telephone or email. AMLD 3281-2 is required for all accidents resulting in personal injury involving government employees or any property damage accident. Multiple forms may be used to capture all necessary statements or in the event that significant time will pass between statements, i.e. the injured employee is off work for multiple days. Any identified and uncorrected workplace hazards will be entered into the HRP system. The COR for contractor employees will be contacted in order to obtain statements from contractor employees. However, government supervisors may gather information from contractor employees at the accident scene prior to notifying the COR for the purposes of preventing further damage or injury and securing the scene.

(3). Request a property damage cost estimate within 48 hours in accordance with LEAD SOP for FLIPLs.

(4). For all GSA vehicle accidents, obtain a completed SF 91 from the operator and complete the supervisor's portion of the form, obtain completed Standard Form 94s, Statement of Witness, from all witnesses as necessary, and complete Standard Form 95, Claim for Damage, Injury, or Death, as necessary. All completed forms from this paragraph and accident scene photographs will be provided to the GSA IFMS fleet manager within 48 hours of the accident. Reference 41 CFR 101-39.401.

(5). Initiate the FLIPL process for a property damage accident in accordance with LEAD SOP for FLIPLs.

c. The LEAD Security Force/Police Officer will initiate and complete accident investigations in accordance with the applicable Police and Security Policy.

d. The LEAD Clinic will complete AMLD 3281-3, Return to Work Slip, for all work related injuries and illnesses. A copy of AMLD 3281-3 will be sent to the Safety Office and provided to the employee for both the employee's and their supervisor's records.

e. The Safety Office will:

(1). Monitor and track completion of the AMLD 3281-1, 3281-2, and 3281-3 in the Accident/Incident Tracking Database. Once the accident/incident information is fully completed, the Safety Office will officially close the accident/incident.

3-6. Post Incident Phase 3. Accident investigation and analysis.

a. The supervisor responsible for the employee or damaged property will provide a copy of the completed cost estimate in accordance with LEAD SOP for FLIPL. In addition, the cost estimate will be provided to the Safety Office, the COR for the contract when a contractor employee is involved, and the DES Police Desk POC by calling (717) 267-8800.

b. The Safety Office will:

(1). Investigate the accident and complete DA Form 285, Army Ground Accident Report (AGAR), in accordance with AR 385-10 and DA PAM 385-40. An AGAR is required for all injuries resulting in a recordable accident or property damage accidents with damage in excess of $50,000.

(2). Update the Safety Meeting Central (SMC) with all applicable accidents to help share recent accident and corrective actions with LEAD employees.

3-7. Additional Requirements.

a. If a government employee is injured and it is not a medical emergency, the employee may be taken to the clinic for care. If the clinic is closed or recommends that the employee be taken to the hospital for care, the fire department should be contacted by dialing 911. The caller must indicate that it is not an emergency and inform the dispatcher that the LEAD fire department is needed to transport an employee to the hospital.

b. The material and equipment at an accident scene may only be moved after LEAD Police and Safety Office have verbally released the material or equipment to be moved for processes to continue.

c. All physical evidence will be preserved by the supervisor over the involved equipment until the Safety Office and FLIPL investigator have completed their investigation. Coordination with the LEAD Legal Office may be necessary.

d. The facility, equipment, or vehicle may only be released for repair after the Safety Office and FLIPL investigator have completed their respective investigations. The director over a damaged facility, equipment, or vehicle may release equipment for repair in situations where employee safety or security is at risk but only after pictures have been taken of the property damage. The director shall coordinate the release with the Legal office prior to the release for repair or after the release has been provided when prior notification is not possible. Release of equipment for repair for the above reasons will be documented on an MFR and provided to the FLIPL investigator to be maintained with the FLIPL. Reference AR 735-5.

e. The FLIPL investigator and Safety Office will release damaged facilities, equipment, and vehicles in email or similar written correspondence.

f. If an employee is transported to the emergency room, hospital, or the employee obtains their own medical care for a work related injury or illness, the employee must process through the LEAD clinic prior to returning to work. The LEAD clinic will evaluate the employee's situation and provide an AMLD 3281-3, Return to Work Slip, as required by paragraph 3-5 d. above.

Table 3-1. Accident Classes.

ACCIDENT CLASS	DESCRIPTION OF ACCIDENT	NOTIFICATION & REPORTING REQUIREMENTS
A	Fatality (military or civilian), Permanent total disability, or estimated property damage of $2,000,000 or greater.	Immediate call to Safety Office (5253) and DA Form 285
B	Permanent partial disability or accidents in which 3 or more personnel are hospitalized. Estimated property damage between $500,000 and $2,000,000.	Immediate call to Safety Office (5253) and DA Form 285 and AMLD Form 3281-R
C	Injury or illness resulting in lost time from work or estimated property damage between $50,000 and $500,000.	Immediate call to Safety Office (5253) and DA Form 285-AB and AMLD Form 3281-R
D	Injury or illness. First aid, restricted work activity, light duty but no lost time; Estimated property damage between $2,000 and $50,000.	Immediate call to Safety Office (5253) and DA Form 285-AB and AMLD Form 3281-R
Note: Property damage includes repair, clean-up, and/or replacement cost		

3-8. Administrative and Record Keeping Requirements.

a. The Safety Office will maintain all accident reports for a period of at least five years.

b. Recordable occupational injuries and illnesses will be logged on the OSHA Form 300, Log of Work Related Injuries and Illnesses, or the LEAD equivalent for each fiscal year. The log totals from the previous fiscal year will be posted on official bulletin boards for employee review from 1 February to 30 April. A copy of this log is available for review during the year in the Safety Office and is maintained in Tab 5 of the cost center safety communication binder.

3-9. Accident Review Board Meetings.

a. An Accident Review Board (ARB) will be convened after an accident that resulted in a recordable injury, first aid, or near miss that could have resulted in significant property damage, serious injury, or death. The Safety Office will determine if a first aid or near miss requires an ARB. The goal is to prevent reoccurrence and create a safe work environment.

(1). The Safety Office will coordinate the ARB meeting to occur as soon after the accident as possible. Attendees will include at least the injured employee, supervisor, director, bargaining unit

representative, Health Clinic representative, representatives from the Safety Office, and command level personnel (Commander or Deputy to the Commander).

(2). A copy of the meeting minutes will be provided to all attendees. Assigned actions will be included in the meeting minutes.

(3). The Accident Review Board meeting minutes will be maintained by the Safety Office for a period of five years and forwarded to all appropriate parties.

(4). The Safety Office will organize and notify all parties that are required to attend the ARB including but not limited to:

(a). The employee and/or coworkers of the employee that was injured.

(b). Eye witnesses and other subject matter experts with valuable information pertaining to the accident/incident.

(c). The supervisor over the employee that was injured.

(d). A Safety Office representative.

(e). A clinic representative.

(f). A workers compensation office representative.

(g). An appropriate union representative.

(h). A command staff representative.

(5). The ARB will review or determine the following information at a minimum:

(a). The circumstances surrounding the accident.

(b). The root cause of the accident.

(c). Corrective actions that will be taken to prevent a re-occurrence of a similar accident.

3-10. Corrective Action. Corrective action responsibility will be assigned during the ARB. Any corrective actions that are not completed within five working days of the ARB will automatically be forward to the command staff and placed on the command staff action register.

Chapter 4

Inspections and Reporting of Hazardous Conditions

4-1. Purpose. Eliminate safety and occupational health problems as soon as they are identified. This can be accomplished most rapidly when there is an open channel of communication between managers and employees. The soundness of the safety and occupational health program, and the supervisor/employee relationship in each organization should be such that any employee may report an unsafe or unhealthful condition to their supervisor and expect quick action in resolving the condition or setting up a plan of action to eliminate it.

4-2. Policies.

a. Any employee or representative of employees, who believes that an unsafe or unhealthful working condition exists, is encouraged to report the hazard and request an inspection of the workplace to their supervisor or to the Safety Office. Employees are encouraged to report unsafe or unhealthful conditions to their supervisors so actions in resolving the hazard may be initiated. The request may be in writing or verbal form.

b. Employees will not be subject to restraint, coercion, interference, discrimination, or reprisal by virtue of such employee's participation in filing reports about unsafe or unhealthful working conditions.

4-3. Responsibilities.

a. Supervisors will:

(1). Thoroughly investigate employee complaints of suspected safety hazards. If the complaint is determined to be a safety hazard, the supervisor will initiate appropriate corrective action.

(2). If the supervisor determines that a hazardous condition does not exist, they will inform the employee of the basis for this determination.

b. Safety Office will:

(1). Notify the originator of the results of the investigation within 14 working days following receipt of the report.

(2). Determine if a hazard exists. If so, a reply will include a summary of the actions to be taken and the anticipated date that the corrective action will be completed. If hazard abatement cannot be completed within 14-workday suspense, an interim response will be provided to the employee. If no hazard is detected, a reply to the employee with a basis for the decision is required.

(3). All facilities and operations will be inspected at least annually by LEAD safety specialists. No prior notification of the inspection is required.

(4). The safety specialist will inform the supervisor or individual in charge of the inspected work area and an authorized union representative before beginning the inspection and discuss the hazards identified during the inspection before leaving the area.

(a). Hazards will be risk assessed in terms of hazard severity and accident probability, and then assigned a Risk Assessment Code (RAC) to determine risk priorities. The supervisor will post the Violation Inventory Log, which identifies the RAC, at the location of the deficiency for three working days or until the violation is corrected. For RAC 1 & 2 violations, DA Form 4753, Notice of Unsafe or Unhealthful Working Condition, will be completed by the Safety Office and shall be posted in the affected cost center by their supervisor for 3 working days or until the violation is corrected, whichever is longer.

(b). If hazard abatement for RAC 1 and 2 violations cannot be completed within 30 days, the violation will be included on the Hazard Abatement Log, which is maintained on the Safety Office portal.

(c). The Commander will be provided a consolidated report monthly on all open actions along with corrective action plan.

c. Employees are encouraged to notify their supervisor and/or Safety Office of any suspected unsafe or unhealthy conditions. If the condition is not corrected at the shop level, a safety specialist will conduct a worksite inspection and make a report/recommendation.

d. Employees:

(1). That are dissatisfied with the Safety Office's response, may appeal the decision utilizing the appeals process described in AR 385-10. Information on the appeal process will be provided with each written response returned to the originator.

(2). Dissatisfied with the response or corrective actions taken, may submit a request that the condition be further investigated by the Safety Office. An employee has the right to request further investigation by the Safety Office, at any point, by completing a Hazard Reporting Process (HRP) report.

4-4. Worksite Inspections. All work areas within LEAD will be inspected at least quarterly.

a. Supervisors will:

(1). Ensure their worksites are inspected following the guidelines set by the Safety Office and included in Chapter 1, paragraph 1-6. d. (5).

b. The purpose of a worksite inspection is to identify the existence of unsafe and unhealthful working conditions. Abatement for identified hazards will begin immediately. The supervisor is responsible for initiating abatement.

c. All facilities and operations will be inspected at least annually by LEAD safety specialists. No prior notification of the inspection is required.

4-5. Imminent Danger Conditions.

a. Imminent danger refers to a condition where there is reasonable certainty that a danger exists that can be expected to cause death or serious harm immediately, or before the danger can be eliminated through normal abatement procedures. It is everyone's responsibility to stop an imminent dangerous situation and to report it to their supervisor immediately.

b. Imminent danger conditions will be corrected immediately. If immediate correction is not possible, the operation will be halted temporarily and/or personnel immediately removed from the area. In these cases, the LEAD Commander, manager, Safety Office, and respective union will be promptly notified.

c. Any supervisor in the chain of command at or above the operation or activity where imminent dangerous conditions exist or any LEAD SOH specialist may direct and issue guidance intended to correct the conditions. If immediate correction is not possible, the above may order the operation halted temporarily. The Safety Office shall be notified immediately when an imminent danger condition is detected.

d. When an employee believes that an imminent danger condition exists, employees can refuse to perform the work until corrective action is taken, or it is determined by an SOH specialist that the work may continue to be performed safely. The SOH specialist will provide justification for continued operation in writing.

4-6. Safety Hazard Reporting Process (HRP).

a. The purpose of the Hazard Reporting Process (HRP) is to establish one location for all identified safety hazards and required safety inspections at LEAD.

b. Responsibilities.

(1). Supervisors will:

(a). Take appropriate action to address all reported hazards in the supervisor's areas of responsibility. In the absence of an immediate permanent fix, the supervisor will take necessary action to protect employees from uncorrected hazards or take action to provide a temporary solution.

(b). Promptly notify the Safety Office of all reports that were inappropriately assigned to a supervisor.

(c). Communicate with subject matter expert offices and personnel to reach final resolution on reported hazards. The area supervisor over the location of the hazard is responsible for providing all updates to the HRP system and requesting extensions on long term corrective actions.

(d). Input corrective action information into the HRP system that addresses the specific hazard and when necessary the root cause of the hazard. All responses will be written in a professional manner with a level of detail necessary to provide confidence to the reporting employee and the Safety Office that the hazard is either being addressed or corrective action has been fully implemented.

(e). Will submit all reported hazards into the HRP system.

(f). Be responsible for all hazards found in their area of responsibility; HRP will be assigned only to the supervisor of the area.

(2). Directors will take appropriate action to address hazard reports that are past their corrective action due dates.

(3). The Safety Office will:

(a). Monitor the reports in the system for accuracy and clarity of data inputs.

(b). Review, approve, validate, and close all reported hazards and corrective actions.

(c). Conduct trend analysis, when necessary, to identify areas of concern.

(d). Assist with long term corrective action that are out of the supervisor's control.

c. Employee identified safety hazards may be reported using the following report types:

(1). Safety Suggestions.

(2). Safety or Health Hazard Reports.

(3). Near Miss Reports.

d. The process for submitting the above reports is broken down into two options.

(1). Employees can report Safety Suggestions, Safety or Health Hazard Reports, or Near Misses by submitting an electronic report through the Hazard Reporting Process (HRP) system. The HRP system will be used for tracking reports to closure by the Safety Office.

(2). Employees can submit Safety Suggestions, Safety or Health Hazard Reports, or Near Misses by visiting the safety portal page and selecting the button titled "Hazard Reporting Process" followed by "Add New HRP" and completing the online Safety Report Form. All appropriate parties will be notified for tracking the identified hazards to completion and providing an update to the reporting employee. Either government or contract employees may submit a report.

e. Safety hazards are also identified through any of the following types of inspections:

(1). Quarterly safety inspections.

(2). Directorate level safety committee inspections.

(3). Safety Office audits and inspections.

(4). “Other” inspections including but not limited to:

(a). Commander walk-through inspections.

(b). PFI inspections.

(c). OSHA General Industry Training class inspection.

(d). Random Safety office inspections.

f. The process for conducting inspections and reporting safety hazards including reporting and tracking identified hazards to completion is as follows:

(1). The Office Area Safety Inspection Checklist (AMLD Form 4614), Industrial Area Safety Inspection Checklist (AMLD Form 4614-1), and Outdoor Inspection Checklist (AMLD Form 4614-2) are to be used when conducting all safety inspections to assist the person conducting the inspection to look at several different areas of concern as it pertains to safety. These forms are merely a guide and are not required to be presented to the Safety Office for tracking. Internal directorate or division requirements for this form may be different, i.e. verification that inspections are being completed internally.

(2). During the inspection, Hazard Report form (AMLD Form 4294) can be used to record identified hazards while the inspection is being conducted. Once the inspection is complete, all identified hazards will be entered into the electronic HRP system for tracking to closure.

(3). With the exception of quarterly safety inspections, work area inspections are not required to be entered into the HRP system for reports with “No Faults Found.” This requirement may be modified by individual directorates or divisions based on specific internal requirements. The Safety Office will only require “No Faults Found” inspections for quarterly safety inspections.

Chapter 5

Training

5-1. Promotion and Education.

a. Good safety practices, like a good product, must be advertised. An active, aggressive safety promotional and educational campaign will significantly improve safety awareness.

b. Safety posters, bulletins, pamphlets, periodicals, and other technical, educational, and promotional materials pertinent to LEAD activities will be procured or developed and distributed by the Safety Office in efforts to develop favorable accident prevention attitudes.

c. Maximum use of safety promotional and educational material will be made by posting them in appropriate areas, in order to create and maintain interest in the prevention of accidents.

5-2. Training.

a. Purpose: The purpose of the Safety and Occupational Health Training Program is to provide employees with the necessary information and knowledge to perform assigned tasks or activities in a safe and healthful manner.

b. Definitions

(1). **New Employee Orientation (NEO):** New employees will attend a new employee orientation which will be documented in TED, as part of their onboarding. Each employee will receive the Basic Level training as a part of NEO.

(2). **Basic Level Training:** Training required for every employee at LEAD. This training is designed to provide each employee with an awareness level of hazards, rights, and responsibilities associated with LEAD operations. Most awareness level training is a short overview of a program that provides a basic understanding of the hazards within a process and is not meant to train employees as subject matter experts.

(3). **Skilled Level Training:** Training required for employees that are immediately affected by or participate in an activity that requires an understanding of a specific program. Skilled level training is often required by OSHA, Army, or LEAD regulation. Failure to provide skilled level training would pose a danger to employees who work within a process that requires special training for an employee to do their job safely. Skilled level training is required by a higher authority to ensure that the hazards associated with specific jobs/tasks are clearly defined and programs are in place to abate those hazards. This training is described further in the course catalog. This training will be identified by the supervisor and completed by the employee affected by the specific program.

(4). **Total Employee Development (TED):** The training system of record to ensure employees are provided training as well as the auditable system for review and/or revision.

(5). **LEAD SharePoint:** The location where training will be managed.

c. Responsibilities

(1). The Safety Office will:

(a). Provide technical guidance and assistance to directors, tenant activity chiefs, and supervisors in determining safety and health training needs.

(b). Maintain and revise training requirements.

(c). Work with training coordinators and supervisors to meet training requirements.

(2). Supervisors will:

(a). Review operations and identify safety and health training needs in accordance with the course catalog in this chapter. The Safety Office will provide assistance as needed. Ensure employee training is documented in the employee's TED record. All safety training will be incorporated into TED as the system of record for training

(b). Onboard all employees to site-specific hazards associated with their job tasks.

(c). Ensure new employees attend the new employee orientation.

(d). All employees will be trained within a reasonable timeframe of assuming responsibilities. New employee safety orientation training will be given through TED and organized by the supervisor and training coordinator. All other training will be provided prior to the employee engaging in a job requiring the training.

(e). Maintain access to government employee training records. These documents must be readily available as they may be requested during safety and quality surveillance audits to determine compliance with OSHA, Army, and LEAD regulation. All training will be maintained in TED and will align with the course catalog in Table 5-1.

(f). Ensure that employees who miss training, complete the training separately and document training.

(g). Work with the Contracting Officer Representative (COR) for contract labor employees to assist in providing oversight of contractors to ensure compliance with all applicable OSHA, Army, and LEAD regulations.

(h). Will receive OSHA general industry course training (LSS-2015) within one year of becoming a supervisor.

(3). The Contracting Officer Representative for contractors will:

(a). Notify all labor contractor managers of training requirements as identified by area supervisors.

(b). Work with the Safety Office to determine contractor compliance with OSHA, Army, LEAD, and other applicable regulations.

(4). LEAD Training Coordinator will:

(a). Create a new class for Letterkenny safety orientation training in TED for each new employee orientation given during the year.

d. Safety Training Programs: Training is outlined in 2 categories as seen in Table 5-1. Table 5-1 provides guidance on the testing requirements and the interval at which employees shall maintain the training.

(1). The safety training course catalog is provided to define the criteria of training provided to the employees. Supervisors will contact the Safety Office for employees that are required to have skilled training as indicated in the catalog. See Table 5-1 for the catalog.

(2). Additional training requirements will be identified by the Safety Office and coordinated according to applicable regulatory guidance and organizational structure.

e. Safety Training Tests: Tests will be required for certain levels of training courses in order to gauge trainee understanding of the material covered during the course. Employees will not be permitted to test out of any course. All safety training must be completed prior to employees taking any safety test.

5-3. Retraining.

a. Retraining will take place:

(1). In accordance with federal, state, and local requirements.

(2). When a nonconformance occurs and retraining is deemed necessary.

(3). If working conditions change significantly.

(4). When new hazards are introduced into the work area.

(5). If a regulation or standard is amended by the governing body.

(6). As the result of an accident.

Table 5-1. Training Requirements.

TED ID	Course Name	Course Description	Training Interval	POC
Basic				
LSB-1001	**Local Hazards Familiarization** (Meets requirements for Army and CFR 1910 Subparts I,J,N,S,Z)	This course covers basic information pertaining to the common hazards at LEAD. Subject matter will include but is not limited to: Crane operations Radiation Fall Protection Hazard Communication Confined Spaces Lead, Cadmium, and Chromium Respiratory Protection Asbestos Electrical safety	Annual	SAF
LSB-1002	**JSA** (Meets requirements for VPP)	Employees will review all applicable JSAs prior to working a process or operating a piece of equipment. JSAs must also be reviewed at least annually.	Annual	SAF
LSB-1003	**General Work Area Housekeeping, PPE, and Special Requirements** (Meets requirements in CFR 1910 Subparts D and I)	These requirements are general in nature and will be explained to all work area employees. More specific requirements will be listed in the cost center safety communication binder and JSAs.	Annual	SAF
LSB-1004	**Use, Storage, and Care of Standard Personal Protective Equipment** (Meets requirements in CFR 1910 Subpart I)	This training will cover standard PPE such as safety glasses, safety shoes, and hearing protection.	Annual	SAF
LSB-1005	**Blood borne pathogens** (Meets requirements in CFR 1910 Subpart Z)	Blood borne pathogen awareness in the work place.	Annual	SAF
LSB-1006	**Ergonomics** (Meets requirements for VPP)	Review of common ergonomic hazards in LEAD's workplaces.	Annual	IH

Table 5-1. Training Requirements – Continued.

TED ID	Course Name	Course Description	Training Interval	POC
LSB-1007	**Lock Out/Tag Out and Hazardous Energy Control Procedures (Affected Employees)** (Meets requirements in CFR 1910Subpart J)	Review of how to recognize an item that has been locked or tagged and how to report an item which requires locking or tagging.	Annual	SAF
LSB-1008	**{Reserved}**			SAF
LSB-1009	**Ground Guide Training** (Meets requirements for Army and Local Procedures)	Requirements for guiding a vehicle while backing or during situations that could cause damage to property or injury to personnel.	Annual	SAF
LSB-1010	**Location and Operation of Emergency Eye Wash and Shower Stations** (Meets requirements in CFR 1910Subpart K)	Review of emergency eyewash and emergency shower use and care.	Annual	SAF
LSB-1011	**Hearing Conservation** (Meets requirements in CFR 1910 Subpart G)	How to protect your hearing while at work and at home.	Annual	Clinic
LSB-1012	**Fire Extinguisher** (Meets requirements in CFR 1910 Subpart L)	All personnel will receive annual training on the basic operation of a fire extinguisher.	Annual	FD
LSB-1013	**Risk Management** (Meets requirements for ARMY)	Training is required for all Department of the Army employees.	Annual	SAF

Table 5-1. Training Requirements – Continued.

TED ID	Course Name	Course Description	Training Interval	POC
LSB-1014	**Emergency Procedures** (Meets requirements in CFR 1910 Subpart E)	Work area emergency procedures such as emergency phone numbers, evacuation plans and routes (including rally points), as well as the location of fire extinguishers and emergency pull stations will be reviewed.	Annual	SAF
LSB-1015	**Safety and Occupational Health Policy Statement** (Meets requirements for VPP)	The Commander's Safety and Occupational Health policy statement will be reviewed at least annually.	Annual	SAF
LSB-1016	**Personal Responsibility to Safety** (Meets requirements for VPP)	Employee and supervisor responsibility to safety is outlined in Chapter 1 of this regulation. This information will be shared with all subordinates upon initial assignment and annually thereafter.	Annual	SAF
LSB-1017	**Reporting unsafe acts, conditions, near misses, accidents, and injuries** (Meets requirements for VPP)	Reference Chapter 4 of this regulation for requirements of reporting unsafe acts, conditions, near misses, accidents, and injuries.	Annual	SAF
LSB-1018	**29 CFR 1960** (Meets requirements in CFR 1960)	Required for Department of the Army Civilians.	Annual	SAF
LSB-1019	**Safety Management System training** (Meets requirements for OHSAS 18001 & ISO 45001)	Review of OHSAS 18001 and/or ISO 45001 basics	Annual	SAF

Table 5-1. Training Requirements – Continued.

TED ID	Course Name	Course Description	Training Interval	POC
		Skilled		
LSS-2001	**Hazard Communication** (Meets requirements in CFR 1910 Subpart Z)	Required for anyone who works with chemicals or may be exposed to hazardous materials. Initial training will be provided by the Safety Office while site specific training will be provided by the supervisor. The supervisor will conduct additional training whenever a new hazard or new chemical is introduced into the workplace.	Annual	SAF
LSS-2002	**Compressed Gases** (Meets requirements in CFR 1910 Subpart H)	Required for Employees who work with compressed gas cylinders will be trained in the proper handling, storage, and inspection of compressed gas cylinders. This training does not include fire extinguisher training.	Annual	SAF
LSS-2003	**Blood Borne Pathogens** (Meets requirements in CFR 1910 Subpart Z)	Required for employees that handle or may come in contact with blood or other potentially infectious material.	Annual	SAF
LSS-2004	**LOTO (Authorized employees)** (Meets requirements in CFR 1910 Subpart J)	Required for employees who will apply locks or tags on equipment.	Annual	SAF
LSS-2005	**Accident Avoidance Course** (Meets requirements for ARMY)	Required for employees who will operate any type of government vehicle including GSA vehicles.	4 years	SAF
LSS-2006	**Fall Protection** (Meets requirements in CFR 1910 Subpart D)	Required for all employees who work with fall arresting systems or wear a body harnesses.	Initial Only	SAF
LSS-2007	**Asbestos** (Meets requirements in CFR 1910 Subpart Z)	Required for anyone who performs housekeeping in areas which contain asbestos and those performing maintenance operations near asbestos or may be exposed through routine work. Asbestos may be found in floor tile, shelters and steam lines. Training will be provided before an employee is involved in an evolution which exposes them to asbestos.	Annual	SAF

Table 5-1. Training Requirements – Continued.

TED ID	Course Name	Course Description	Training Interval	POC
LSS-2008	**Lead, Cad, Chromium** (Meets requirements in CFR 1910 Subpart Z)	Required for employees who work within a regulated area as determined by IH reports.	Annual	IH
LSS-2009	**Confined Space Entry** (Meets requirements in CFR 1910 Subpart J)	Required for employees who will serve as an entrant, attendant, or supervisor over a permit required confined space.	Annual	SAF
LSS-2010	**Advanced Ergonomics** (Meets requirements for VPP)	Ideal, not required, for employees who serve on safety committees, supervisors, or for those conducting safety inspections.	Initial Only	IH
LSS-2011	**Electrical safety for Unqualified Persons**	Required for employees working with 50 volts or more and may be required to respond to an electrical shock situation.	3 Years	SAF
	Electrical Safety for Qualified Persons (Meets requirements in CFR 1910 Subpart S)	Required for employees required to work on or near exposed energized parts. Electrical safety for unqualified persons is a prerequisite to this course.		
LSS-2012	**Wheel Servicing Multi/Single Piece Rims** (Meets requirements of CFR 1910 Subpart N)	Required for employees who assemble, disassemble, or service multi-piece and single piece rims.	Annual	SAF
LSS-2013	**Overhead Crane** (Meets requirements of CFR 1910 Subpart N)	Required for employees who operate overhead or mobile cranes or employees who rig or handle a load being carried by any type of crane.	Initial Only	SAF
LSS-2014	**Radiation** (Meets requirements for Army)	Required for employees working in or frequenting any portion of a radiation area as well as employees who have the potential for unexpected exposure to radiation. Also required for employees exposed to or potentially exposed to radio frequencies, microwaves, or lasers.	Annual	SAF

Table 5-1. Training Requirements – Continued.

TED ID	Course Name	Course Description	Training Interval	POC
LSS-2015	**OSHA General Industry Safety Course** (Meets local requirements)	Required for all safety committee members, employees conducting a safety inspection, and LEAD supervisors.	Initial Only	SAF
LSS-2016	**Use, Storage, and Care of Industrial PPE** (Meets requirements of CFR 1910 Subpart I)	Required for employees that wear industrial PPE.	Annual	SAF
LSS-2017	**{Reserved}**			
LSS-2018	**Laser Safety Training**	Required for employees who have potential for unexpected exposure to laser hazards.	Annual	SAF
LSS-2019	**Radiofrequency (RF) Radiation Safety Training**	Required for employees who work with RF and have the potential for unexpected exposure to RF hazards.	Annual	SAF
LSS-2109	**Confined Space Entry Refresher**	Required for employees who will serve as an entrant, attendant, or supervisor over a permit required confined space.	Annual	SAF

Chapter 6

Safety and Occupational Health Committees

6-1. Purpose. Provide a uniform procedure for the appointment, responsibilities, and procedures for Safety and Occupational Health Committees and staff/standup safety meetings.

6-2. Definitions.

a. **Safety and Occupational Health Committee:** Committee which is made up of management and employees to discuss issues related to the safety program at Letterkenny Army Depot.

b. **Staff/Standup Safety Meetings:** Meetings conducted by each supervisor of each cost center or area on a weekly basis to discuss safety issues related specifically to the area or work assignments. These types of meetings normally are 15 to 30 minutes in length.

c. **Safety and Occupational Health Specialist:** A Safety and Occupational Health Specialist from LEAD Safety Office, Industrial Hygiene, and respective union representatives will also attend committee meetings.

6-3. Policies and Procedures.

a. The Safety and Occupational Health Committee of each directorate shall have a chairperson, a recorder, and members. If volunteers are not found for these positions, the director will appoint these roles and do so in writing. The term of the chairperson shall not exceed one year. The safety committee shall include representatives from the directorate, union representatives, Safety Office, Industrial Hygiene Office, and other pertinent offices if desired.

b. The committee chairperson will rotate annually between Management and non-management with the other serving as the Co-chair.

c. Members of the committee must have an alternate or substitute in the event of their absence.

d. Committee members should be staggered on at least one year terms, rotating to primary for the second year and rotating out the third.

e. Committee members shall be trained for their roles. Each member shall receive orientation of the responsibilities, Job Safety Analysis training, and the OSHA General Industry Training instructed by the Safety Office. This includes both supervisors and employees of the committee.

f. A list of all members of the safety committee shall be kept up-to-date, and shall be posted in each cost center and on all official bulletin boards so all employees may have access to it. The list shall include name, title, phone extension, email address, and the cost center in which he/she works.

6-4. Safety and Occupational Health Committees.

a. Directorate of Industrial Operations (DIO), Directorate of Public Works (DPW), Directorate of Supply & Transportation (DS&T), and Directorate of Theater Readiness and Monitoring (TRMD) will establish and maintain a Safety and Occupational Health Committee, which will meet monthly to address safety issues. Other directorates will have quarterly committee meetings. Fire and Emergency Services Division of Directorate of Emergency Services (DES) will follow the prescribed Army Occupational Safety and Health (AOSH) procedures and policies.

b. Members of these committees may consist of supervisory and non-supervisory employees. Voluntary participation is encouraged. Other members of the committee will include a union and a Safety Office representative.

c. The committee will have a prepared agenda that will be distributed to members in advance.

d. Meeting will be kept short (no more than 1-hour) and be structured.

e. Minutes of committee meetings will be forwarded to the appropriate director/tenant activity chief and the Safety Office for review within ten working days after the meeting. The Safety Office will then post the minutes to the safety portal.

f. The recorded minutes will be maintained for a period of one year at which time they may be destroyed

6-5. Responsibilities.

a. The Director will:

(1). Ensure changes are not made to the committee meeting minutes without written notification to the appropriate committee.

(2). Review all safety committee meeting minutes and provide assistance as necessary when problems cannot be resolved through the committee procedures.

(3). Personally review, follow-up, track progress, and observe all discrepancies which pose an imminent danger to employees.

(4). When necessary, by extending help, aid, and assistance to the Safety Office, ensures that all applicable reports and documents are filed with OSHA or any other applicable federal, state, or local government agency.

b. Chairpersons of the safety committee will:

(1). Attend all meetings of the safety committee. Absence from any meeting will be fully justified and ensure the appropriate alternate is notified.

(2). Not change scheduled meetings arbitrarily. All members and representatives must be notified if a change is necessary.

(3). Prepare an agenda for meetings and ensure distribution to all committee members prior to meetings. The agenda should include as a minimum:

(a). Roll call roster of attendance ensuring a record is kept.

(b). Introduction of visitors. If a visitor is in attendance introduce them and explain why they are attending the meeting.

(c). Reporting of critical information needing immediate attention. If there is an issue that needs to be addressed immediately this is an opportunity to discuss it before getting into the agenda of the meeting.

(d). Old business: This is the time to update everyone about what has happened since the last meeting, i.e., inspection of areas, etc.

(e). New business: This is the time to discuss new projects that the committee wants to address or provide inspection area assignments to committee members.

(4). Distribute inspection checklists and review with committee members who have inspection area assignments. Inspection area assignments shall be rotated among the members to offer a different view of the area.

(5). Review previous minutes and be prepared to discuss topics and corrective action.

(6). Assign unresolved problems to committee members for corrective action before next meeting.

(7). Report status of recommendations from last meeting. If work order or service order has been submitted, provide the number for tracking purposes.

(8). Forward all hazard reports collected with corrective action to the LEAD Safety Office for review.

c. Recorder of the safety committee will:

(1). Attend all meetings of the safety committee. Absence from any meeting must be fully justified and the appropriate co-chairperson and alternate notified.

(2). Ensure the minutes of each meeting are recorded. Minutes will be forwarded to the director. Copies of the safety committee minutes will be distributed as necessary to applicable directorate supervisors, committee members, Safety Office, Industrial Hygiene, unions, Deputy to the Commander, and Commander.

d. Members of the safety committee will:

(1). Attend all meetings of the safety committee. Absence from any meeting must be fully justified and the appropriate chairperson and alternate notified.

(2). From personal observation or by observation of another employee or contractor, report unsafe conditions presenting an immediate danger to the supervisor and follow-up at the next regular safety meeting to discuss actions.

(3). Conduct monthly inspections of work areas and operating environments as assigned by the chairperson to assure all hazards have been minimized and that safe work practices are being used. Any discrepancies found should be written on AMLD form 4294, Hazard Report Form and entered into the electronic Hazard Reporting Process (HRP) system. AMLD Form 4614, Office Area Safety Inspection Checklist, AMLD Form 4614-1, Industrial Area Safety Inspection Checklist, and AMLD Form 4614-2, Outdoor Inspection Checklist, may be used to assist in the inspection.

(4). Contribute ideas and recommendations for safety improvement.

(5). Assist LEAD Safety Office with distribution of promotional material, films, etc. as required.

(6). Serve as a role model for safety and safe work practices to peer employees.

6-6. Training. Safety committee members must be trained for their roles. Each member will receive orientation and training. The Safety Office will provide this training and at a minimum the following applies:

a. Co-Chairpersons, recorder, and members of the safety committee shall receive the following:

(1). Orientation with LEAD-R 385-1, LEAD Safety and Occupational Health Program (1 Hour).

(2). Training on Job Safety Analysis (3 Hour).

(3). Training in Safety and Occupational Health Standards for General Industry.

(4). Training records shall be maintained through the Total Employee Development system (TED).

Chapter 7

Personal Protective Equipment

7-1. Purpose. Prescribe policies and procedures for the selection, issue, and use of personal protective equipment (PPE). The objective of the LEAD protective equipment program is to ensure proper PPE is available and to enforce the proper wearing and use of personal protective equipment in order to minimize the likelihood of an occupational injury and illness.

7-2. Special Definitions.

a. **Approved Equipment:** PPE is normally approved or certified by a governing national agency or institute. The most common types of PPE and the approval listing(s) that they must carry are as follows:

(1). Respirators – Mine Safety and Health Administration (MSHA) and National Institute Occupational Safety and Health (NIOSH).

(2). Footwear – Standard for Safety Toe Footwear or American Standard Test Material (ASTM) F2413.

(3). Eye Protection – ANSI Z87.1, American National Standard Practice for Occupational and Educational Eye and Face Protection. All glasses and face shields will be high impact rated and have the manufacturer's mark of Z87+ clearly visible on the lens or frames.

(4). Hearing Protection – ANSI S3.19.

(5). Hard Hats – ANSI Z89.1.

(6). Hand Protection – ANSI/ISEA 105

(7). Rubber Protective Equipment for Electrical Workers, ANSI J6.

(8). Rubber Insulating Gloves, ANSI J6.6.

(9). Rubber Matting – ANSI J6.7.

(10). Rubber Insulating Blankets, ANSI J6.4.

(11). Lanyards/Lifelines/Harnesses, ANSI 359.

(12). High Visibility Safety Apparel, ANSI/SEA 107.

(13). Flame Resistant Garments – NFPA 2112 or 2113

b. **Locally Approved Equipment:** Other PPE that does not carry a national listing or certification, but must be approved at the installation level as being acceptable for the intended protection. Examples would be coveralls, gloves, barrier creams, etc.

c. **Sturdy Shoes:** Shoes which cover the heel and toe and provide sturdy footing. The point of this definition is to ensure employees understand types of shoes which provide sturdy footing in industrial environments where floors are slippery, cluttered, and/or unstable at times. Sturdy shoes DO NOT include sandals, open toed shoes, or high-heeled shoes. The heels of sturdy shoes will not exceed 2 inches in height and will be as wide as possible. Skinny heels (heels which may by unstable due to their thin design) are not considered sturdy.

d. **Administrative and Break Areas:** Areas restricted to non-industrial use. When located within an industrial environment will include:

(1). Protective barriers such as cubical partitions, plywood, or metal. These walls will be at least 60 inches in height.

(2). Placement and access points which are set up in such a manner so as to prevent industrial hazards from entering the area. Locations will be approved by the Safety Office.

(3). Signs which appropriately designate the area as an administrative or break area.

e. **Industrial Building/Area:** Any building or work area where industrial operations are occurring. Industrial operations include but are not limited to equipment repair, painting, washing, and some warehousing operations.

7-3. Policies.

a. The use of mandated PPE is a condition of employment. Such equipment will be furnished to the employee without cost. The employee does not have the authority to downgrade the level of protection, which is specified for his/her job; nor does an employee have the right to accept the consequences of an injury through the non-use of specified personal protective equipment.

b. Should employees desire PPE, which is other than that issued by LEAD, employees may purchase this PPE at their own expense. However, any self-purchased PPE shall meet the minimum level of protection specified for the job and will be approved by the Safety Office prior to use.

c. Issued items that are lost, rendered unserviceable due to abuse by employees, or lost/damaged due to negligence of an employee will be replaced at the employee's expense.

d. Personnel, including visitors, will wear the required PPE while in an area designated as eye hazardous, noise hazardous, foot hazardous, or a hard hat area.

e. Respiratory Protection Program details are outlined in Chapter 8. Hearing protection is addressed in Chapter 24.

f. The purpose of the Safety Eyewear Program is to provide adequate eye protection for all DA civilian personnel, including temporary appointments and military personnel whose normal duties are in eye hazard locations. The following applies to the eyewear protection:

(1). Personnel working in designated eye hazard areas or operations are required to wear safety eyewear at all times.

(2). All safety eyewear, LEAD-furnished or employee purchased will conform to ANSI Z87.1 and 29 Code of Federal Regulations (CFR) Part 1910.133. Safety eyewear meeting these criteria will have ANSI Z87.1 stamped on the eyewear frame. Side-shields are required for all industrial areas. All markings shall be legible and permanent. A combination of street wear frames with safety lenses or vice versa is not in compliance with Z87.1 and does not constitute acceptable safety eyewear.

(3). Safety glasses with side shields will be issued to employees in areas with the potential for impact injuries. In areas with severe exposure to high velocity flying fragments, high impact face shields will be worn over primary safety glasses.

(4). Employees who are required to wear a fitted full face respirator, self-contained breathing apparatus (SCBA), or an air-line helmet may be considered for special eye protection devices/glasses due to the limitations imposed by the respirator.

(5). Employees engaged in soldering/de-soldering or tinning operations will wear safety goggles, an approved face shield, or eye protection.

(6). Employees, who use chemicals for degreasing, cleaning, stripping, etc., will use chemical goggles. Personal prescription glasses may be used in conjunction with the goggles.

(7). Employees performing plating operations will wear chemical goggles. Personal prescription glasses may be used in conjunction with the goggles.

(8). Welders will wear both safety eyewear/goggles during gas welding or oxygen cutting operations and welder's helmets/hand shield during arc welding or cutting operations. Dirty welder's coveralls will be segregated and placed into containers properly marked.

(9). Employees using compressed air for operations shall wear goggles. Personal prescription glasses may be used in conjunction with the goggles.

(10). A person having useful vision in only one eye and those who are legally blind (corrected) will be furnished and will wear safety glasses while on duty, regardless of the degree of eye hazard encountered in performance of assigned duties.

(11). In accordance with DA PAM 40-506 Chapter 5-4 d. (3) and U.S. Army Public Health Command Fact Sheet 63-001-1013, "Safety glasses with tinted lenses are not to be worn indoors unless the tint is designed for a specific indoor radiant energy hazard." As a result, only clear lens safety glasses will be used indoors; unless, a specific indoor radiant energy hazard, such as high intensity light given off during laser or torching operations, has been identified. Any specific radiant hazard must be appropriately documented on a work area JSA prior to tinted safety glasses being approved for indoor use. Any deviations from this requirement will be approved by the Safety Office in writing.

(12). Tinted safety glasses may be used for outdoor operations during daylight hours only. If hazards to the eye are present, tinted glasses must be ANSI Z87+ rated.

(13). LEAD will furnish basic safety eyewear that meets the above requirements.

g. Used personal protective equipment will not be reissued unless it is in a clean, sanitized, and in serviceable condition. Employees will not take personal protective equipment home for cleaning, laundering, or disposal. LEAD will provide these services when required.

h. Employees who operate, maintain, or work on machinery will wear a hair net or cap if their hair is long enough to become ensnared in the equipment. Hair extending below the ear or over the back collar will be considered long enough to pose an entanglement hazard. Hair protection will apply to both males and females. Beards also pose a potential hazard around moving machinery. Beard bags will therefore be worn if beards protrude more than two inches from the chin. Loose/baggy clothing or neckties will not be worn around moving machinery.

i. LEAD will provide adequate foot protection for DA civilians, including temporary appointments, and military personnel whose normal duties are in foot hazardous locations.

j. Personnel who are working in designated foot hazard areas are required to wear safety shoes at all times. A risk assessment or JSA will determine the proper type and/or style of safety shoe that is applicable (i.e. eight-inch boot or sneaker, etc.). Open type shoes and high heel shoes are not permitted in the industrial work areas at any time. Administrative personnel who are required to spend time working in shop areas will be issued safety shoes on a case-by-case basis.

k. All safety footwear, LEAD-furnished or employee purchased, will conform to the ASTM 2413 or ANSI Z41.1 standards. Safety footwear meeting these criteria will have ANSI Z41.1 or ASTM 2413 legibly stamped on the inside of the shoe. Safety footwear not meeting the above is inadequate and will not be worn as safety shoes.

l. LEAD will furnish basic safety footwear that meets the above requirements. Employees are authorized for the issue of standard footwear from the contract provider, normally at a shoe mobile. Employees dissatisfied with the type/style of footwear offered by this contractor may purchase safety footwear, from another source at their own expense. Employees engaged in a wide variety of work processes may be issued multiple types of safety shoes to meet safety requirements identified in risk assessments or JSAs.

m. Employees who report to work in foot hazardous areas without adequate safety footwear will be required to wear toecaps while in the foot hazardous areas. Toecaps can be obtained at respective tool rooms. Should the employee refuse to do so, the supervisor will remove the employee from the foot hazardous area.

n. Prescription Safety Footwear: Employees requiring prescription footwear must provide medical justification. Employees requiring special order footwear that cannot be provided by the shoe mobile must be approved by the Director of Contracting (DOC). Once the prescription or approval from DOC is provided, the footwear can be ordered from a local supplier and paid through their cost center/directorate authorized credit card system.

o. Normal frequency of issue for standard safety footwear will be one pair every two years. Insulated or water proof safety footwear will be issued on a case-by-case basis. If less than two years, the respective supervisor will investigate to determine cause of extraordinary wear and tear to the safety shoes. If a determination is made that government property was willfully damaged due to abuse or misuse, the employee will be responsible for replacement of the safety shoes at no cost to the government.

p. Safety shoes and safety glasses are required for all areas in industrial buildings with the following exceptions:

(1). Non-industrial employees may wear sturdy shoes and safety glasses while traversing through main aisles and walkways throughout industrial buildings. This applies to both LEAD non-industrial employees and visitors to LEAD. Employees and visitors will both be asked to leave an industrial building in the event they do not have proper sturdy shoes or safety glasses.

(2). Additional PPE, such as hearing protection may be required in some industrial buildings. Entrance ways and doors are labeled for convenience. It is the responsibility of LEAD escorts to notify visitors of PPE requirements within industrial buildings prior to entry.

(3). Building maps have been established for some industrial buildings to better outline and communicate PPE requirements to employees and visitors. These maps are a guide and do not supersede the requirements of any regulation or the professional advisement of the LEAD safety staff.

(4). Safety shoes and safety glasses are not required within designated administrative or break areas, as define in section 7-2 of this chapter. The requirements for hearing protection will not be relaxed within administrative or break areas that are located in environments with industrial noise.

(5). Some industrial buildings have an established “Safety Way.” These areas have relaxed PPE standards which require sturdy shoes. These areas will be well marked by signs and posters so as to communicate PPE standards once employees leave the Safety Way.

(6). Non-industrial buildings do not have PPE requirements.

q. Flame resistant coveralls will be worn by paint shop employees who are engaged in spray painting and mixing operations. Welders will be provided with flame resistant jackets and pants or coveralls.

r. Fall Protection:

(1). Whenever employees must work on an elevated platform, man lift, boom truck, ramp, equipment, or structure which is four feet or higher than an adjoining work surface, fall protection will be used. Fall arrest and/or fall protection will be provided by means of a standard (42-inch) rail and mid-rail or a full body harness equipped with a shock absorbing lanyard or self-retracting lifeline. Reference Chapter 19 of this regulation for additional details.

(2). Roof Work:

(a). Prior to accessing roof, employees must have a JSA for operation or a completed and signed AMLD 4658, Roof Access Permit.

(b). Scaffolding, lifelines, lanyards, and/or other fall protection will meet current Occupational Safety and Health Administration (OSHA) standards.

(c). If employees may be present beneath the elevated work platform, ramp or surface, and there is the potential for tools or materials to fall from the platform, a standard 4-inch toe board will also be attached to the elevated work surface.

(d). On flat roofs and flat elevated surfaces, a warning and monitor system may be implemented. The conditions and risk assessment must be completed in writing and reviewed by the Safety Office.

s. Confined Space Entry: Confined space work will be done in accordance with Chapter 20. Personal protective equipment for confined space work will be determined on a case-by-case basis. These requirements will be outlined on the AMLD form 3666-R, Confined Space Entry Permit. At a minimum, confined spaces will be monitored before entry and during occupancy. If needed, employees in a confined space will wear a harness/lifeline, which is attached to rescue equipment (whenever the work process permits). Continuous contact will be maintained between confined space worker(s) and standby/rescue personnel.

t. Back Support Belts: The blanket use of back belts to prevent or minimize back injuries resulting from lifting is not supported by the Office of the Surgeon General. OSHA does not consider back belts a solution to ergonomic problems in the workplace and does not accept back belts as PPE. Employee owned back belts may be worn if the employee provides a valid medical certification from an orthopedic surgeon or neurosurgeon stating the use of the belt is necessary and the employee has been trained in the proper use of the belt. A copy of this certification must be provided to the Occupational Health Clinic.

u. Personal Protective Equipment: Section 7-2 will be used as a guide in determining minimum PPE requirements for general operations. This section is not all-inclusive. It is intended to cover common operations. In those cases where an operation is not covered by the section 7-2, the supervisor will contact the Safety Office and/or the industrial hygienist to establish personal protective equipment requirements. Specific PPE requirements will be outlined in a Job Safety Analysis (JSA).

v. Hard Hats are required:

(1). When hazards to the head are present.

(2). During all excavating operations.

(3). Ground helper for overhead operations such as holding ladders or assisting with crane operations. This includes operators of overhead/mobile cranes who are on ground level, as well as any line attendants and riggers. All other personnel who are not involved in overhead crane operations should stay clear of the potential hazard area, or otherwise, wear a hard hat.

(4). The following is a guideline for proper selection of hard hat:

(a). Types:

1. Type I is for top impact only.

2. Type II is for top and lateral impact such as ground guide for overhead crane operations.

(b). Classes:

1. Class E is intended to reduce the danger of exposure to high voltage electrical conductors.

2. Class G is intended to reduce the danger of exposure to low voltage electrical conductors.

3. Class C is not intended to provide protection from electrical conductors.

(c). Examples:

1. Overhead hoist operations – Type II, class G

2. Electrical wiring overhead – Type II, class E

3. Construction site visit – Type 1, class G

w. High Visibility Safety Apparel:

(1). All workers, including emergency responders, within the right-of-way who are exposed either to traffic or to work vehicles and construction equipment shall wear high visibility safety apparel.

(2). When uniformed law enforcement personnel are used to control access through LEAD gates, direct traffic, and to investigate crashes and/or accidents they shall wear high visibility safety apparel.

(3). Personnel conducting non-roadway activities such as LEAD landscaping, grass cutting, or any operations within 12 feet of the roadway edge (gravel, asphalt, concrete, etc.) whose work poses a struck-by hazard from moving vehicles shall wear high visibility safety apparel.

7-4. Responsibilities.

a. The Safety Office will:

(1). Implement the Depot Personal Protective Equipment Program.

(2). With the assistance of our Occupational Health Clinic and Industrial Hygiene personnel, survey LEAD industrial operations and ensure that minimum standards for mandatory use of PPE for each routine operation are included in this regulation.

(3). Cooperate with supervisors in establishing personal protective equipment requirements for non-routine operations. The supervisor will ensure that these requirements are set forth in a SOP or JSA which will have the Safety Office's approval.

(4). Provide guidance to shop supervisors, and analyze each shop/area operation to determine the associated hazards and protective shoes required.

(5). Approve all special-purpose requests and multiple issues (Summer/Winter i.e. Weather related special purpose requests) in accordance with applicable regulations on a case-by-case basis.

(6). Perform periodic surveys of work area to ensure that personnel are wearing personal protective equipment, safety shoes, and eye protection as required.

(7). Maintain a "PPE Catalog" on the Safety Office portal page. The catalog will maintain a list of common PPE that has been pre-approved by the Safety Office for use LEAD wide. The contents of the catalog will be determined by the Safety Office and changed as needed to reflect appropriate information to simplify the purchasing process of common PPE. Work areas that require PPE that is not listed on the PPE catalog will request Safety Office approval of PPE using AMLD Form 349-2, Personal Protective Equipment.

b. Supervisors will:

(1). Ensure that personnel are familiar with the requirements and provisions of this regulation.

(2). Ensure that all areas designated as requiring PPE are posted with an appropriate warning sign at all entrances of these designates areas as practicable.

(3). Ensure the wearing of required personal protective equipment, safety shoes, and proper eye protection mandated for all personnel under their supervision.

(4). Prohibit visitors or other personnel who are not equipped with the mandated clothing and equipment from entering or otherwise being exposed to occupational hazards or unhealthful conditions within their work areas.

(5). Set the example for all shop personnel by personally using mandatory personal protective equipment.

(6). Initiate appropriate disciplinary action against employees who violate the provisions of this regulation.

(7). Provide personal protective equipment training and documentation for their employees as outlined in Section 7-5.

(8). Ensure personal protective equipment is kept clean and in safe condition.

(9). Remove from service any PPE that has been damaged or found to be defective.

(10). Review operations where the use of contact lenses presents an increased hazard to employees of the operation. Examples include dry atmospheres, splashing caustic chemicals, flying dust particles, etc. Employees will be given specific guidance for these operations by documenting guidance in applicable JSAs.

(11). If DA civilian or military personnel require prescription safety eye wear, follow procedures outline in Section 7-6.

(12). Review requests for prescription safety footwear, and special order safety footwear.

(13). Maintain a clothing record on DA Form 3645-1.

(14). Review periodic clothing record history and/or exception listings and investigate potential cases of fraud, waste, or abuse.

(15). Ensure that all employees scheduled for issue of safety shoes report to the designated location.

(16). Ensure employees awaiting safety footwear are assigned duties that do not require foot protection or that toecaps are worn.

(17). Complete for DA 2765 in accordance with DS&T guidelines. Clearly state on requisition form, DA 2765, a minimum of two (2) current styles that are authorized for selection by the employee. These styles must be in compliance with all safety and OSHA requirements that apply to the work tasks the employee is required to perform.

c. Directors will:

(1). Ensure that supervisors within their organizations are familiar with the policies, procedures, responsibilities, and requirements of this regulation.

d. Directors and chiefs of tenant activities will ensure that prescribed PPE are made available to all employees performing functions listed in Section 7-2.

e. The Directorate of Contracting (DOC), Letterkenny Contracting Office, Army Contracting Command:

(1). Ensure DOC procedures are current for processing prescription safety eyewear requests in a timely and accurate manor.

(2). Ensure that the designated receipt recorders are assigned receipt authority in the Blanket Purchase Agreement and Credit Card System (BPACCS).

f. Directors will designate directorate personnel who are authorized to act as receipt recorder for the BPACCS. Names of these designated receipt recorders must be forwarded to DOC.

(1). The DOC will establish a contract instruction to provide visits by the shoe mobile.

(2). Oversee the shoe mobile operations and keep the installation informed of their schedule.

(3). Coordinate an approved shoe list with the selected supplier. Ensure that the shoe mobile provides only shoes that are on the approved list.

(4). Approve prescription and/or special-orders footwear requests.

g. DS&T Logistics Support Division will:

(1). Provide Supply Technician support for the scheduled shoe mobile visits.

(2). Maintain records of the sizes, styles, and quantities of shoes in each style in addition to the PCN the purchase is to be charged to.

(3). Assure that the shoe mobile vendor is providing to the employee only the style(s) that have been authorized by the supervisor on the DA 2765.

(4). Provide payment verification data for use by the DOC in effecting payment to the vendor(s).

h. Personnel at all levels will:

(1). Habitually use personal protective equipment while performing tasks identified in Section 7-1, JSA, SOPS, and work procedures. No individual is permitted to perform any hazardous industrial operation or task that will expose or endanger unprotected personnel who are nearby.

(2). Ensure that personal protective equipment is kept clean and in good working condition.

(3). Report any damaged or defective PPE to your supervisor immediately.

(4). Follow all limitations, guidance, training, and instructions on proper use, maintenance, wear, and inspection of PPE.

(5). Not deliberately deface, damage, mishandle, or alter PPE.

7-5. Training.

a. Each employee will receive training to cover at least the following areas:

(1). When personal protective equipment is necessary.

(2). What personal protective equipment is necessary.

(3). How to properly don, adjust, and wear personal protective equipment.

(4). The limitations of the equipment.

(5). The proper care, maintenance, useful life, and disposal of the equipment.

b. Training will be given before commencement of the duties requiring the use of personal protective equipment. Training will be required for full time employees, temporary employees, employees on detail and/or borrow and loan. Training will be repeated when:

(1). A change in the workplace renders previous training obsolete.

(2). Employee does not demonstrate the understanding and skill required to properly use the equipment.

(3). Changes in the type(s) of equipment to be used render previous training obsolete.

7-6. Prescription Eyewear.

a. General procedures:

(1). The employee obtains eye exam at own expense and on their own time.

(2). The employee meets with their supervisor to request prescription safety glasses. The supervisor must review and approve request in accordance with Section 7-2, justification for prescription safety glasses is based on job requirements as well as new change in eye prescription, and/or broken/damaged eyewear that needs replacement. The employee's supervisor will coordinate completion of required documents with the cost centers point of contact (POC) with the credit card holder.

(3). The designated POC for the cost center will follow steps filling out the request for prescription eyewear through the new GPC process.

(4). Employees will receive an approval notice from the cardholder with instructions on what actions need to be taken. Failure to receive approval may cause the employee to be responsible for the cost of the safety glasses.

(5). Employee will then coordinate official time through their supervisors to pick up their prescription eyewear.

(6). Employee will notify supervisor of receipt of glasses and turn in any required documentation to their supervisor.

(7). The Supervisor annotates the employees clothing record DA FORM 3645-1, files a copy of receipt in employee clothing record, and forward the receipt information to the POC.

Chapter 8

Respiratory Protection

8-1. Purpose. Outline the provisions for the control of Respiratory Protection Equipment (RPE) at LEAD that will ensure adequate and proper protection for employees working in environments containing or possibly containing harmful concentrations of dusts, fumes, mists, gases, smokes, or vapors; and to comply with the AR 1134 and 29 CFR, 1910.134.

a. 29 CFR, 1910.13 provides for:

(1). The identification and determination of operations for which respiratory protection is required and the correct respirator for use at these operations.

(2). Workers assigned to tasks requiring the use of respirators to have a physical examination to determine if they are physically, psychologically, and physiologically able to perform work while wearing prescribed respiratory protection.

(3). Medical monitoring of employees wearing respiratory protection.

(4). Fitting and supplying employees with respiratory protection.

(5). Cleaning and maintaining RPE.

(6). Training users and supervisors in the correct use of RPE.

(7). Recordkeeping necessary for an effective respiratory protection program.

(8). Fit testing process flow charts (Charts 8-1 and 8-2) are provided at the end of this chapter.

8-2. Definition of Terms.

a. **Chemical Agent Resistant Coating (CARC):** The CARC is a coating system that utilizes pretreatments, primers and topcoats designed to provide surfaces that are easily and effectively decontaminated after exposure to liquid chemical agents and are superior in durability and service life to enamel and lacquer paints.

b. **Facial Hair:** Growth of sideburns, beard, or mustache that will prevent a complete face piece-to-face seal. Respirators equipped with a face piece will not be worn if facial hair comes between the sealing periphery of the face piece and the face, or if facial hair interferes with valve functions.

c. **Fit Test:** The use of a protocol to evaluate the fit of a respirator on an individual.

d. **Half-Face:** Respirator that covers the mouth and nose area and requires a complete seal with the face.

e. **Isocyanates:** Compounds containing the isocyanate group (-NCO). They react with compounds containing alcohol (hydroxyl) groups to produce polyurethane polymers. Isocyanates are the raw materials that make up all polyurethane products.

f. **Military Protective Masks:** The military protective masks are approved for use by soldiers, civilian employees, and contractors as protection against military chemical agents.

g. **PAPR:** Powered Air-Purifying Respirator.

h. **Qualified Individual:** A person with the knowledge, experience, and training to perform assigned duties.

i. **Qualitative Fit Test:** A pass/fail test to assess the adequacy of respirator that relies on the individual's response to the test agent.

j. **Quantitative Fit Test:** An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

k. **Respirator:** A device designed to provide the wearer with respiratory protection against inhalation of airborne contaminants and, for some devices, oxygen-deficient atmospheres.

l. **SCBA:** Self Contained Breathing Apparatus.

8-3. Policy.

a. The ability to use RPE will be a condition of employment when required for the job.

b. Workers will not be assigned to tasks requiring the use of respirators without prior medical evaluation.

c. Respirators equipped with a face piece will not be worn if facial hair comes between the sealing periphery of the face piece and the face, or if facial hair interferes with valve functions.

d. Each area and operation requiring RPE will be identified to inform personnel of the work hazards or health risk involved and the type of respirators needed.

e. Respiratory protection will be furnished at no cost to the employee.

f. All RPE will be ordered by the respiratory protection specialist. Absolutely no exceptions will be granted.

g. Only NIOSH approved RPE designed to protect personnel from occupational diseases will be used and maintained. The use of paper dust masks is strictly prohibited for respiratory protection.

h. RPE will be used only for the purpose intended, and no modifications of the equipment will be made.

i. Issued RPE will only be worn by the employee it was fit tested for and will not be shared with other employees.

j. RPE for spray finishing operations will be selected in accordance with the selection chart in US Army Public Health Center (USAPHC) Technical Guide 144 (TG 144), Guides for Controlling Health Hazards in Painting Operations.

k. Workers atomizing Isocyanate paints are required to utilize air supplied respirators, as per US Army Public Health Center Technical Guide (TG 144). Chemical Agent Resistant Coating (CARC) paint is considered to an Isocyanate.

l. Respirators requiring a good face piece-to-face seal to be effective will not be considered an adequate means of protecting the user when conditions prevent the good face piece-to-face seal, i.e., growth of beard, sideburns, skull caps, temple pieces, corrective spectacles or the absence of one or both dentures.

m. Where RPE is used in atmospheres immediately dangerous to life or health (IDLH), i.e., areas where toxic chemicals are in high concentrations or in confined spaces where oxygen is less than 19.5 percent, a NIOSH approved airline respirator or SCBA or combination of both will be used and a stand-by person or persons with visual, voice, and emergency rescue capabilities must be present.

n. Compressed air cylinders for self-contained respiratory protection will be maintained as prescribed in the Shipping Container Specification Regulation of the Department of Transportation, 49 CFR, Part 78, and will be filled with compressed air that meets the requirements for Grade D Breathing Air as described in Compressed Gas Association (CGA) Commodity Specification for Air in CGA-7.

o. Airline couplings will be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with non-respiration gas or oxygen.

p. Supervisors and workers will be properly instructed in the selection, use, and limitation of their respective respiratory protection device. Persons having training in respiratory protection will instruct both supervisors and workers.

q. When labeled, breathable air lines will be colored in accordance with Tables 8-1 and 8-2.

Table 8–1. Airline Text Colors.

Pipe Contents	Color Scheme
Fire-quenching fluids	White text on red
Portable, cooling, boiler feed, and other water	White text on green
Compressed air	White text on blue
Breathable air	Black text on white

Table 8–2. Airline Text Specifications.

Outside Pipe Diameter (in.)	Minimum Length of Color Background (in.)	Minimum Letter Height (in.)
0.75-1.25	8	0.5
1.5-2	8	0.75
2.5-6	12	1.25
8-10	24	2.5
>10	32	3.5

8-4. Responsibilities.

a. The LEAD Commander will:

(1). Assume responsibilities for the overall success of the Respiratory Protection Program.

(2). Designate the Safety Office as the office of primary responsibility for monitoring the Respiratory Protection Program.

(3). Designate in writing a qualified Safety and Occupational Health specialist as the Respiratory Protection Program manager.

(4). Provide sufficient funds, facilities, and qualified personnel to efficiently perform all duties required by the Respiratory Protection Program.

b. Directors and Division Chiefs will:

(1). Ensure that respiratory protection is available and utilized by all personnel entering into or working in an atmosphere that is considered hazardous or potentially hazardous to employee health.

(2). Ensure that all personnel under their supervision follow the guidelines established in this regulation.

(3). Ensure that respirators and personnel trained to use them are provided in sufficient quantities to ensure safe operations in their areas.

c. Safety Office will:

(1). Coordinate with the Commander to appoint a qualified individual to perform the Respiratory Protection Program manager duties.

(2). Ensure breathable air quality checks for Grade D breathable air are performed in accordance with OSHA, 29 CFR, 1910.134 (c) (1)(vi).

(3). Ensure breathable systems are tested every fiscal year to determine their conformance to the CGA G-7.1 GRADE D standard. Annual sampling will be at least 6 months apart but not more than 20 months apart.

d. Occupational Health Clinic will:

(1). Assume responsibility as the Installation Medical Authority (IMA) for the Respiratory Protection Program.

(2). Provide physicals to employees assigned tasks requiring the use of respirators to determine if they are physically, psychologically, and physiologically able to perform work while wearing prescribed respiratory protection. The medical status of the user will be reviewed periodically. Frequency of the review will be at the discretion of the Medical Officer based upon the type of RPE used, age of individual, and the results of the medical examination.

(3). Annotate the AMLD Form 3431, Individual Respirator Control Card, with the results of the examination and provide a copy to the Respiratory Protection Specialist.

(4). Coordinate with Civilian Personnel Advisory Center as required.

(5). Coordinate the removal of an employee from the Respiratory Protection Program with the Respiratory Protection Program Manager and respective supervisor.

e. Industrial Hygiene Office will:

(1). In coordination with Safety Office, determine personnel and operations that require respiratory protection and provide technical assistance in the selection, instruction, and proper use of RPE to organizational elements having the need of RPE.

(2). Provide technical assistance and guidance to the Respiratory Protection Program Manager to ensure the overall effectiveness of the Respiratory Protection Program.

(3). Perform frequent, radio inspections of work places to ensure respirators are being properly used, selected, cleaned, stored, and properly maintained.

(4). Conduct breathing zone air sampling at suspect operations to determine the level of respiratory protection required, and provide a copy of the results to the Respiratory Protection Program Manager and Production Engineering Division.

(5). Coordinate with the Respiratory Protection Program Manager, Environmental Management Division, and Occupational Health Clinic to develop a list of all operations requiring RPE. Information will include the following:

(a). Number of personnel required to use RPE at each operation.

(b). Type of RPE required.

(c). Reason for respiratory protection in specified locations.

(d). Whether RPE is permanent, temporary, or for emergency use only.

f. Environmental Management Division will:

(1). Maintain copies of Safety Data Sheets (SDS) through the Hazardous Material Management System (HMMS).

(2). Maintain a current inventory of chemical products used in the work areas (zones) of LEAD as provided by supervisors in order to provide the appropriate protective measures from the harmful effects of a particular chemical.

(3). Manage hazardous material in compliance with Quality System's Environmental Material System (EMS) Procedure Manual EEJ-010, Hazardous Material Management.

g. Radiation Protection Officer will evaluate the respirator use procedures to determine if the requirements of Title 10, Code of Federal Regulation, Part 20 and the applicable Nuclear Regulatory Commission license are followed if respirator use is based on exposure to radioactive materials.

h. Chief, Fire and Emergency Services Division:

(1). Ensure that respiratory protection is available and utilized by all emergency response personnel entering into an atmosphere that is hazardous or potentially hazardous to employee health.

(2). Ensure that SCBA and personnel trained to use them are provided in sufficient quantities for emergencies.

i. Letterkenny Munitions Center will:

(1). Ensure that all Quality Assurance Specialists Ammunition Surveillance (QASAS) personnel are entered in the Respiratory Protection Program.

(2). Provide Military Protective Masks (M39, M40) for all QASAS personnel that successfully complete a physical examination, training, and fit test requirements.

(3). Ensure Military Protective Masks (M39, M40) are readily available and worn by all QASAS personnel in accordance with mission requirements.

j. Directorate of Law Enforcement and Security will:

(1). Ensure Military Protective Masks (M39, M40) are available and worn by all personnel entering into an atmosphere that is considered hazardous or potentially hazardous to employee health.

(2). Ensure military protective masks (M39, M40) and personnel trained to use them are provided in sufficient quantities to meet mission requirements.

k. Directorate of Operations, Planning, and Support will:

(1). Install and maintain breathing air systems capable of providing Grade D breathable air where required, to include the use of only "oil-free" compressors designed for breathing air systems.

(2). Coordinate with the Safety Office and Respiratory Protection Specialist when maintenance is performed on a breathable air system to determine whether or not the system should be recertified as Grade D breathable air prior to putting the system back into service.

(3). Maintain compressed air breathing system alarms in an operable manner.

(4). Implement a schedule of routine maintenance for servicing and inspections of airline purification panels and changing of filters and cartridges as required.

(5). Install airline couplings that are incompatible with outlets for other gas systems.

(6). Appoint a qualified individual as the Respiratory Protection Specialist to perform duties required by the Respiratory Protection Program.

(7). Appoint a qualified individual as the Alternate Respiratory Protection Specialist to perform all duties required by the Respiratory Protection Program.

(8). Provide sufficient directorate-level funds, facilities, and qualified personnel to effectively perform all duties required by the Respiratory Protection Program.

(9). Plan, program, and annually evaluate the Respiratory Protection Program with the assistance of the Respiratory Protection Program Manager, Industrial Hygiene Office, and the Health Clinic.

(10). Coordinate closely with the Respiratory Program Manager, Industrial Hygiene Office, and the Health Clinic on any problem areas of the Respiratory Protection Program, and any changes in program procedures or equipment.

(11). Ensure computerized programs for inspections, testing, fittings, and maintenance of RPE are maintained current.

l. Directorate of Contracting will:

(1). Ensure that only the RPE ordered by the Respiratory Protection Specialist is purchased.

(2). Ensure there is no substitution for the RPE ordered by the Respiratory Protection Specialist.

m. Directorate of Supply and Transportation will:

(1). Forward all incoming RPE to the Respiratory Protection Specialist for inspection and assembly. When items are received at LEAD, they will be identified and placed at the head of the receiving line.

(2). Inspect all RPE received to determine that it is the type ordered and that it is not damaged or flawed. Damaged or flawed RPE will be processed through appropriate channels and returned to the shipping company. Under no conditions will substitute items be accepted without prior approval of the Respiratory Protection Program Manager, Respiratory Protection Specialist, and the Industrial Hygiene Office.

n. Respiratory Protection Program Manager will:

(1). Manage and implement the Respiratory Protection Program.

(2). Provide guidance to the Respiratory Protection Specialist.

(3). Provide guidance to supervisors in the preparation of JSAs, as it pertains to fitting, use, and maintenance of RPE.

(4). Perform worksite inspections to determine if RPE is properly selected, used, cleaned, maintained, stored, and disposed of as applicable.

(5). Perform periodic inspections on the Respiratory Protection Program to evaluate regulatory compliance and the overall effectiveness of the program.

(6). Brief the Commander on status of Respiratory Protection Program, as required.

(7). Develop and implement the regulation prescribing the Respiratory Protection Program in coordination with the Respiratory Protection Specialist, Industrial Hygiene Office, and the Health Clinic.

(8). Keep the Respiratory Protection Specialist apprised of weaknesses in the Respiratory Protection Program and provide recommended solutions as required.

o. Respiratory Protection Specialist will:

(1). Work closely with Respiratory Protection Program Manager and the Industrial Hygiene Office to ensure an effective and efficient Respiratory Protection program is properly implemented.

(2). Ensure that requisitions submitted for RPE are given proper priority.

(3). Provide formalized training for RPE users and their supervisors annually.

(4). Coordinate scheduling of user fit test using Form 8-1 and Charts 8-1 and 8-2.

(5). Determine serviceability of RPE.

(6). Perform fit-testing upon initial issue and periodically thereafter; or if there is a radical change in employee's facial structure.

(7). Perform centralized requisitioning, stockpiling, issuance, cleaning, sanitizing, and maintenance of RPE as required.

(8). Monitor proper collection and distribution of respiratory protection equipment at specified frequencies from using organizations.

(9). Instruct employees in the proper usage, limitations, and donning of respirators, as well as performance of leak test and daily inspections to be performed.

(10). Upon initial issuance of RPE, remind employees that use of respiratory protection is a condition of employment when required for the job.

(11). Coordinate closely with the Respiratory Protection Program Manager and the Industrial Hygiene Office on any problem areas of the Respiratory Protection Program as well and any contemplated changes in program procedures or equipment.

(12). Develop instructions for employees on routine field cleaning/disinfecting and maintenance to be performed by employees.

(13). Use a computerized program to monitor respirator users, training schedules, and fit-tests.

(14). Annotate and file AMLD Form 3431, Individual Respiratory Control Card for each employee fitted with a respirator.

(15). Issue AMLD Form 3409, Respirator Issue Card after completing fit test.

(16). Information designating the manufacturer and RPE that fits the user will be sent to the user's supervisor.

(17). Ensure RPE is placed in a sealed bag and labeled with the type of respirator and the employee's name.

(18). Perform calibration of carbon monoxide ecolyzers monthly.

p. Supervisors will:

(1). Enforce the requirements of this regulation.

(2). Report all operations suspected of requiring RPE to the Industrial Hygiene Office for appropriate action.

(3). Ensure that all employees entering into an atmosphere that is hazardous or potentially hazardous to employee health have the required respiratory protection.

(4). Ensure all personnel being interviewed for positions requiring use of respiratory protection are made aware of this requirement and the importance of a proper face piece-to-face seal.

(5). Ensure that all users have received necessary physical examinations to determine if they are physically capable of wearing required RPE, including all detailed employees.

(6). Provide a storage location or cabinet and ensure RPE is stored in a clean and sanitary location within the work center, to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respiratory equipment will not be stored in places such as toolboxes, unless they are in carrying cases or cartons.

(7). Ensure that users requiring respirators have a valid AMLD Form 3409 before using any type of respiratory protection.

(8). Ensure that users requiring respirators are sent to the Respiratory Protection Specialist for issue, fit testing, and training before using respirators.

(9). Ensure employees do not wear unapproved RPE, i.e., paper dust mask.

(10). Ensure that employees do not allow conditions to exist that will prevent the RPE from providing a good face piece-to-face seal. Such conditions may be one day or more growth of beard, sideburns, spectacles, skullcap that projects under the face piece, or facial cosmetic make-up.

(11). Return nonfunctional respirators to the Respiratory Protection Specialist for replacement, repair, or proper disposal as applicable.

(12). Ensure a work instruction and respective JSA is prepared to include respiratory protection requirements, procedures, hazards, and responsibilities. Include a statement in the employee's job description that proper use of RPE is a significant job element. Consider user performance in performance appraisals.

(13). Inform individual employee of scheduled respirator fit test appointments. A sample memorandum for appointments with facial hair diagram is provided at the end of this chapter in Figure 8-1.

(14). Notify the Respiratory Protection Specialist when an employee is no longer required to be in the Respiratory Protection Program and request removal from the program.

q. Employees will:

(1). Ensure RPE is not worn before a successful physical examination.

(2). Ensure annual medical evaluation and fit test appointments are not missed.

(3). Not purchase any RPE, i.e., paper dust mask. The Respiratory Protection Specialist must order all RPE.

(4). Be ultimately responsible for the care and use of their respirator. Check the face piece for holes, cracks, leaks and tightness of connections, valves, canisters, and cleanliness before and after each use. RPE in need of cleaning, other than routine daily cleaning, and/or repairs must be turned in to the Respiratory Protection Specialist to be serviced.

(5). Report to work in a condition meeting the requirements of Figure 8-1 a-c.

(6). Perform a user seal check to ensure satisfactory fitting and valve function each time respirators are used.

(7). Ensure RPE is stored properly when not in use.

(8). Review work instructions and respective JSAs periodically to refresh their memory on the respiratory protection requirements, procedures, hazards, and responsibilities.

(9). Never share issued RPE with another employee.

(10). Ensure RPE is returned to Respiratory Protection Specialist upon removal from respiratory program.

(11). Ensure adequate eye and hearing protection is used while wearing respiratory protection equipment.

r. Civilian Personnel Advisory Center will:

(1). Ensure all personnel being considered for employment in areas or operations requiring the use of RPE be referred to the Health Clinic for a pre-employment physical.

(2). Ensure identified employees presently working in areas requiring RPE who are unable to wear required protection, as determined by the LEAD physician, will be considered for reassignment in accordance with applicable legal requirements.

(3). Route new position descriptions and job announcements requiring the exposure to, use, storage, or handling of chemicals, radioactive materials, ammunition, or other hazardous material through the Safety Office, Industrial Hygiene Office, and the Health Clinic for review to ensure compliance with regulatory requirements.

(4). Coordinate with the Respiratory Protection Program Manager on matters pertinent to the Respiratory Protection Program, as required.

8-5. Training Outline.

a. Respiratory Protection Program Manager will ensure that training is provided on a yearly basis to:

(1). The respirator users.

(2). All supervisors of locations or operations where RPE is required for regular, intermittent, temporary, or emergency use.

b. Training will include:

(1). The principles of respiratory protection.

(2). The requirements of OSHA for the Respiratory Protection Program.

(3). The functioning of the Respiratory Protection program.

(4). Selection, fit, care, and use of respiratory protection equipment.

(5). Inspection of respiratory protection equipment.

(6). Record keeping necessary for an effective Respiratory Protection Program.

c. For employees detailed to an operation requiring the use of RPE, supervisor must ensure that these employees receive proper respirators and attend the Respiratory Protection Training Program held by the Respiratory Protection Specialist.

d. Training for operations where emergency use respiratory protection is required will be provided to all potential users of this equipment by the Chief, Emergency Services Division, and DES; and will comply with NFPA Standard 1500, Standard on Fire Department Occupational Safety and Health Program.

Form 8–1. Sample Memorandum Format.

(OFFICE SYMBOL)

MEMORANDUM FOR_____

SUBJECT: Respiratory Fit Test Schedule, **DATE:** _____**TIME:** _____

1. In accordance with 29 CFR, Part 1910.134 Respiratory protection standard and LEADR 385-1, Respiratory Protection, it is mandatory that you report for your annual respiratory fit test/training in order for you to continue wearing your Respiratory Protection Equipment (RPE).

a. You must be "**on time**" for your appointment.

b. You must **not smoke 30 minutes before** reporting for fit test.

c. You must **bring your RPE with you** for your fit test/training appointment (RPE includes cartridge respirator, powered air purifying respirator (PAPR), paint/blast helmet with regulator and hose).

d. Personnel must **be free of facial hair and/or cosmetics**, which may interfere with the proper fit and/or function of the required respirator. (See back for clarification of hairstyles.)

e. Failure to report for this fit test and/or training will result in you being **prohibited** from working in areas or on tasks that require RPE - **effective immediately**.

2. Report **any schedule changes** to your supervisor.

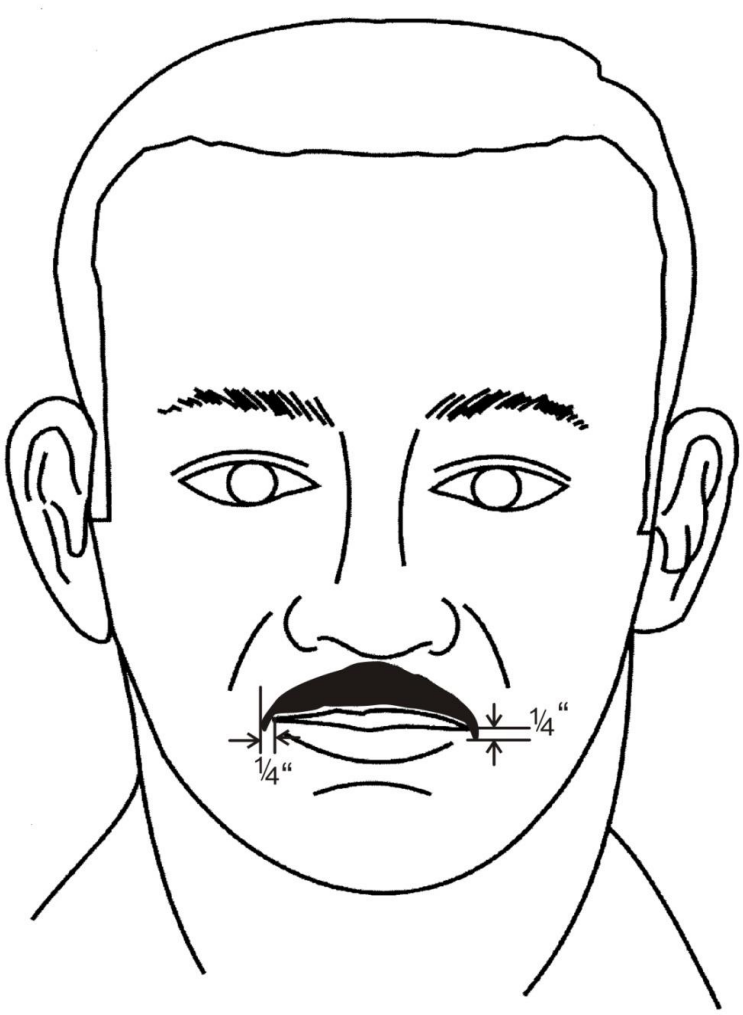
3. Point of contact is Respiratory Protection Specialist, x8081.

_____ (Supervisor's Signature)

Date employee received memo: _____

Employee's initials. _____

Figure 8–1. Facial Hair Example



a. Employees that wear respirator equipment with a face piece that is designed to seal with the face are required to keep their face clean-shaven. This means there will be no facial hair anywhere below the jaw line, the chin or under the lip. A well trimmed mustache is permitted. Mustaches should not be bushy or extend more than 1/4 inch sideways beyond a vertical line drawn upward from the corners of the mouth or 1/4 inch below a horizontal line drawn from one corner of the mouth to the other.

b. Nothing shall be allowed to enter or pass through the area where the respiratory protection face piece is designed to seal with the face, regardless of specific fitting test measurement that can be obtained.

c. The above is to be used as a general guide only. Exact facial hair configuration will be decided on case-by-case basis by the respiratory protection specialist.

Chart 8–1. Pre-Employment/Job Change Exam Process.

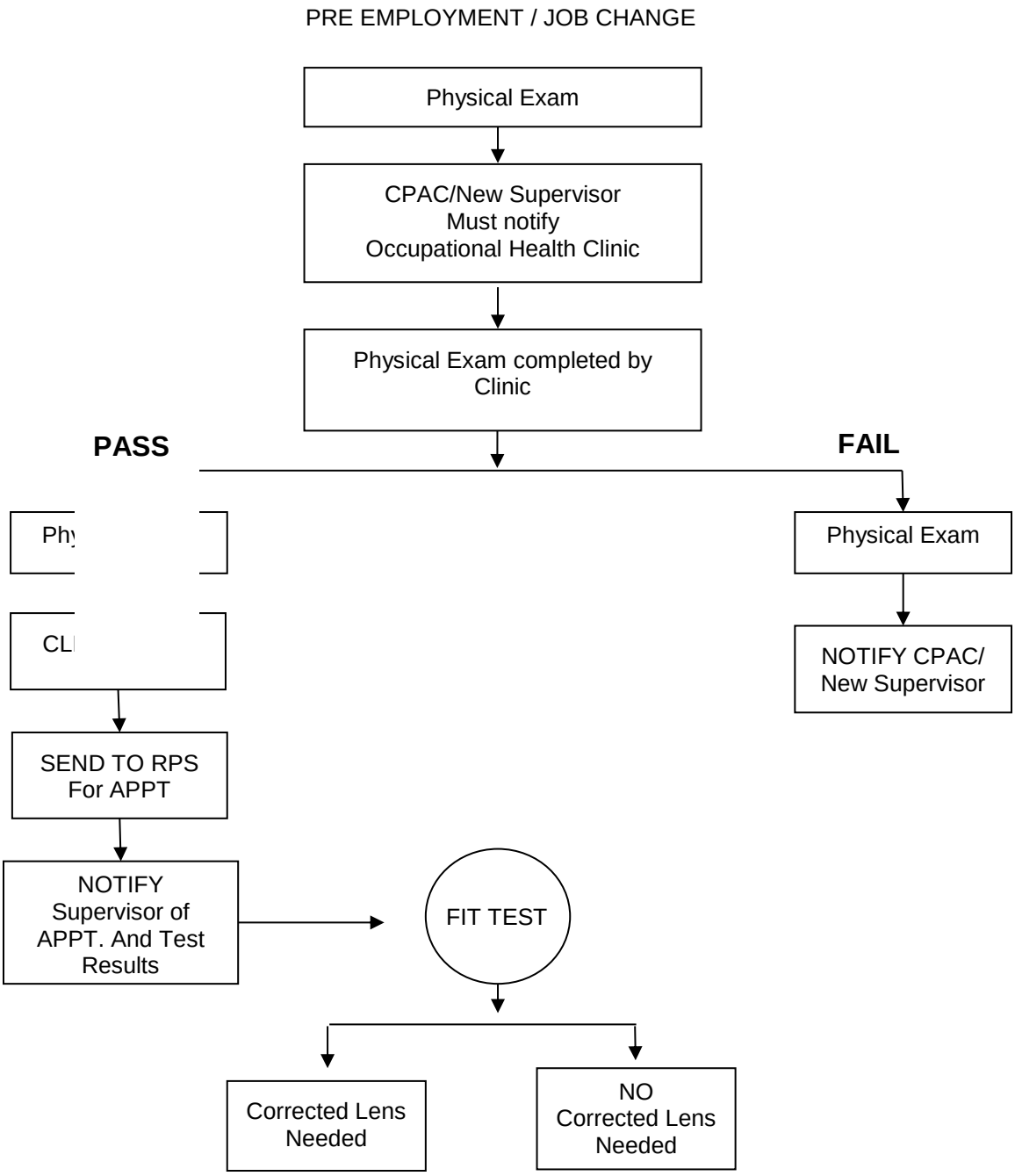
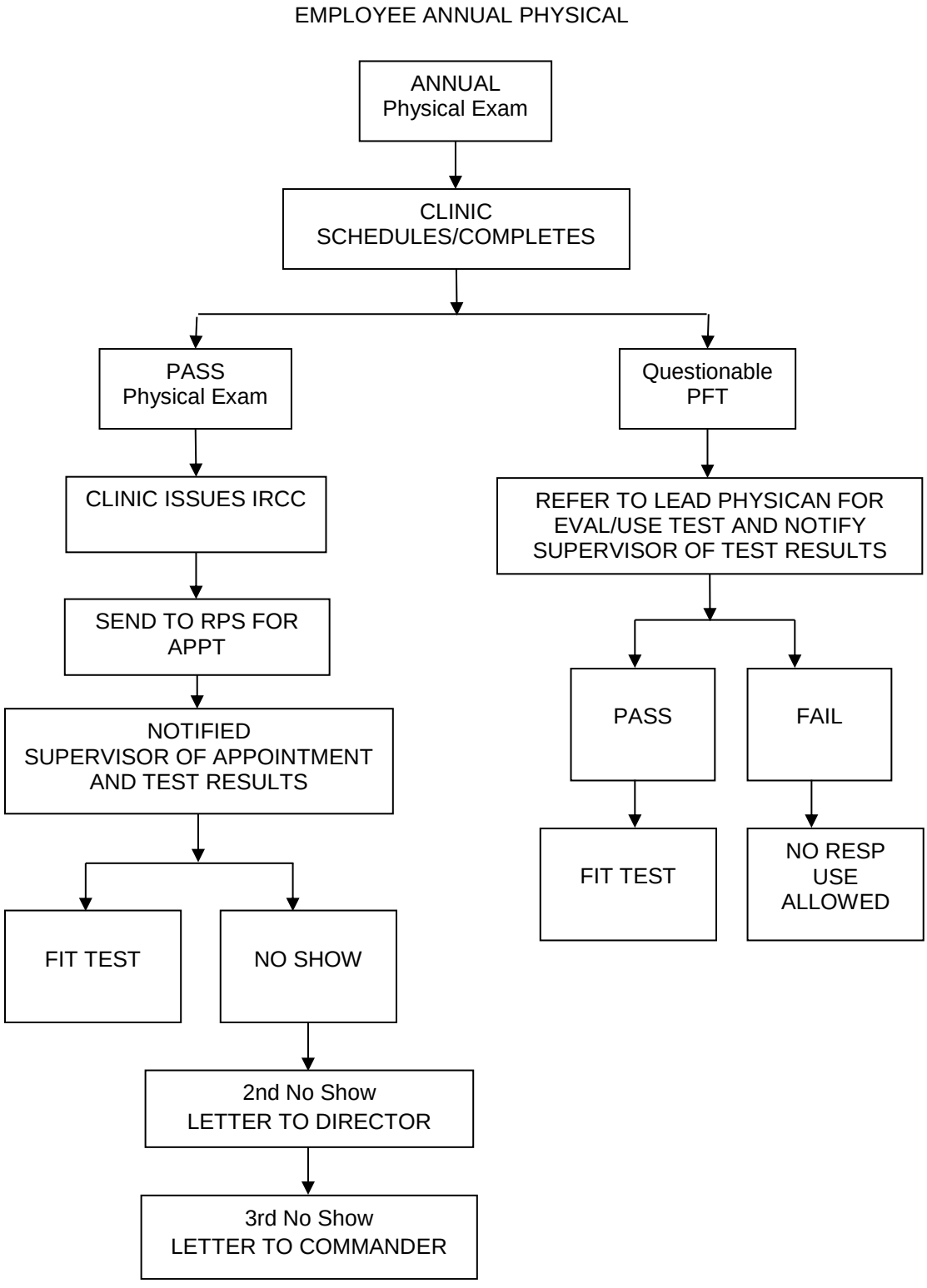


Chart 8–2. Employee Annual Exam Process.



Chapter 9

Eye Wash/Shower Stations

9-1. Purpose. Prescribe responsibilities and procedures for the use of portable or permanent eye wash/shower stations.

9-2. Definitions.

a. **Self-Contained Eyewash:** An eyewash device that contains its own flushing fluid and must be refilled or replaced after use.

b. **Plumbed Eyewash/Shower:** An eyewash and/or shower device that is plumbed to the house water supply and equipped with a valve which opens and closes when activated by the employee.

9-3. Responsibilities.

a. The Production Engineering and Industrial Equipment Maintenance Branch will repair and maintain eyewash and shower stations located throughout LEAD in accordance with manufacturer's instructions. This includes the periodic fluid replacement or manufacturer's service required for self-contained units.

b. Directorate of Public Works will receive and process all service requests for plumbed eyewash/shower units. When plumbed eyewash/shower units are in need of repair, a service order will be sent to the Directorate of Public Works.

c. Supervisors will ensure that Cost Center eye wash stations are maintained, inspected, and documented on a weekly basis.

d. Activities requiring eyewash and shower stations will:

(1). Ensure employees are instructed in the operation of each eye wash station in their area, particularly the location and use of all water flow activating mechanisms. An employee's knowledge of eye wash station usage will not be taken for granted.

(2). Ensure all employees are familiar with the eye flushing procedures listed in paragraph 9-4.

(3). Ensure all eye wash and shower stations are easily accessible at all times.

(4). Inspect and flush plumbed eyewash and shower stations on a weekly basis and document the inspection on AMLD Form 4615-7, Emergency Eye Wash Station Equipment Pre-Operational Checklist. The record will be available for review during a safety inspection of the activity. The inspection of the unit includes:

(a). The unit is free of obstructions in front and sides. A 3 foot path and clearance directly in front of the emergency eyewash and shower will be maintained at all times.

(b). Each unit is identified with a highly visible sign positioned so the sign is visible within the area served by the unit.

(c). Check the piping connections for leaks.

(d). Nozzles will be protected from airborne contaminants. Whatever means is used, its removal will not require a separate motion by the operator when activating the unit.

(e). The unit will be capable of delivering flushing fluid to the eyes for 15 minutes.

(f). Requires no more than 10 seconds to reach and with a travel distance no greater than 55 feet. For strong acids and caustics, these units must be immediately adjacent to the hazard.

(g). Plumbed eyewashes must be flushed for five minutes as part of the weekly inspection.

(h). Plumbed eyewashes will have the water pressure adjustment valve removed or secured to prevent tampering.

(5). Self-contained units will be inspected weekly and maintained in accordance with manufacturer instructions. The inspection shall be documented on AMLD Form 4615-7, Emergency Eye Wash Station Equipment Pre-Operational Checklist.

(6). Ensure employees are familiar with emergency reporting (911) when foreign material enters an employee's eye(s).

(7). Portable eyewash station fluids will be changed quarterly and only replaced with manufacturer approved fluid.

9-4. Procedures. When employees have foreign material enter the eye(s), they will:

a. STOP WORK IMMEDIATELY

b. If possible, get assistance from a nearby co-worker.

c. Walk as quickly as possible to the nearest eye wash/shower station.

d. KEEP EYES OPEN and activate the water flow mechanism.

e. Position eyes in the water flow.

f. Keep eyes in the water flow at least 15 minutes (for permanent eye wash stations) or until the water supply is exhausted (for portable eye wash stations).

g. Have co-worker immediately notify supervisor of the emergency and use 911 reporting procedures to obtain medical assistance.

h. If the injured employee had a chemical enter the eye, have a co-worker obtain the Safety Data Sheet (SDS) for the chemical for reference and to provide to emergency responders if needed.

Chapter 10

Hazard Communication Program

10-1. Purpose. Prescribes policies, responsibilities, and training for the Hazard Communication Program. The program defines specific guidelines for informing and training employees on the chemical hazards of the workplace, labeling hazardous materials, use of Safety Data Sheets (SDS), and developing and maintaining inventories of all hazardous chemicals within the workplace in order to comply with 29 CFR 1910.1200, OSHA's Hazard Communication Standard, and to provide a safe and healthy workplace.

10-2. Scope. This chapter applies to all activities performed within the boundary of Letterkenny Army Depot.

10-3. References.

a. Occupational Safety and Health Act 29 CFR 1910.1200

b. Occupational Safety and Health Act – Subpart D of Part 1926

c. National Fire Protection Association (NFPA) Standard 704, Standard System for the Identification of the Fire Hazards of Materials

d. Environmental Management System Procedure Manual EEJ-010, Hazardous Material Management

e. Environmental Management System Procedure Manual EEJ-017, Waste Management

f. AR 385-10, The Army Safety Program

g. NFPA 400 – The Hazardous Materials Code

10-4. Definitions/Acronyms: The terms used in this chapter are to be interpreted by typical use within the hazardous material management field except where contradicted, restricted or expanded by the following definitions:

a. **Directorate HMAG POC:** The point(s) of contact within a Directorate or equivalent organization for preparing HazMat approval requests and dealing with issues arising from these requests.

b. **Hazardous Material (HazMat):** A material that has the potential to chemically or physically harm human health or the environment. The term HazMat does not include radioactive materials, waste material, or office products (i.e., white-out, toner, etc.).

c. **Hazardous Material Approval Group (HMAG):** A group representing the Environmental Management Division, the Safety Office and the Industrial Hygiene Office for reviewing and approving the use of hazardous material.

d. **Hazardous Materials Management System (HMMS):** the automated system that is designed to track and control HazMat. The computerized database includes SDSs for HazMat in use at LEAD.

e. **HazMat Control Point (HCP):** HMMS equipped supply points that receive, store and issue HazMat to individuals or sub-HCPs within their assigned zone.

f. **Non-Original Container:** Any container that is used to hold chemicals outside of its original container. This does not include waste chemical transfer containers. Examples include plastic spray bottles, dip tanks, parts washers, and pressurized Sure Shot cans.

g. **Non-Original Container Label:** A sticker or tag used to identify the contents and hazards associated with a chemical located in an unlabeled container. LEAD's official Non-Original Container label is AMLD Label 5344.

h. **Safety Data Sheet (SDS):** The SDS gives detailed fire, environmental, safety, and health information for each hazardous component of the chemical material. In addition, the SDS provides potential hazardous effects, physical and chemical characteristics, and recommendations for appropriate protection measures for the chemical materials.

i. **Subordinate HCP (Sub-HCP):** Designated, decentralized points located in large or geographically dispersed organizations to manually receive, store and issue HazMat for the activities conducted within their assigned HMMS zone. Organizations and individuals supported by a sub-HCP conduct all their HazMat actions through that sub-HCP.

j. **Tracking Label:** The bar code label used by the HMMS to identify and control an individual container to its individualized tracking number.

k. **Workplace Labels (also known as secondary labels) :** Labels that are affixed to non-original chemical containers detailing the contents of the container and potential hazards associated with its use.

10-5. Responsibilities.

a. The Commander of Letterkenny Army Depot is responsible for approving and enforcing the Hazard Communication Program described in this regulation.

b. The Director of Public Works is responsible for overseeing the installation-wide HazMat Management responsibilities of the Environmental Management Division.

c. The Safety Office is responsible for:

(1). Managing the Hazard Communication Program.

(2). Routinely reviewing and updating this regulation based on the change of references 3a through 3f and input from the organizations it affects.

(3). Conducting routine inspection of organizations to ensure that the program is being managed in accordance with this regulation.

(4). Develop a comprehensive Hazard Communication Training Program for hazardous material users who are potentially exposed to hazardous chemicals. Employees who work with or may be exposed to hazardous chemicals will receive initial training on the Hazard Communication Standard. The program shall include but is not limited to the following:

(a). Introduction of 29 CFR 1910.1200.

(b). Chemical hazards.

(c). Routes of exposure.

(d). Physical and health hazards.

(e). Controlling chemical hazards.

(f). Administrative controls.

(g). SDSs.

(h). Labeling of chemicals.

(i). Inventory of chemicals.

(5). Review the Statement of Work (SOW) for service and construction projects prior to bid to ensure that hazardous chemicals located at job sites are identified in the SOW and that appropriate protective measures from the harmful effects of the chemicals are also provided in the SOW.

(6). Assist users and supervisors in complying with this regulation and hazardous material safety requirements.

(7). Designate a knowledgeable Safety Office staff member as a representative on the HMAG.

d. The Director of Contracting will require all suppliers of chemicals to provide SDSs with each shipment as set forth by Federal Acquisition Regulation (FAR), Federal Standard 313V, appendix A and 29 CFR 1910.1200.

e. The Environmental Management Division will maintain the Hazardous Material Management System (HMMS), which will provide a chemical inventory for all of LEAD, excluding administrative areas.

f. The Fire Department will designate a representative on the HMAG.

g. Supervisors will:

(1). Ensure that all employees assigned to them are scheduled for Hazard Communication Training when the course is offered, and be responsible for training their employees on new chemicals received in their cost center.

(2). Review and validate products intended use and the location/environment they are used in is aligned with the approved HMAG form. The Supervisor will also validate that employees do not use chemicals in any other application than approved on the HMAG.

(3). Obtain approval to requisition, purchase, or use a new hazardous material in accordance with EMS Procedure Manual, EEJ-010, Hazardous Material Management.

(4). Maintain the HMAG form, AMLD Form 4010, with the SDS and adhere to its use limitations, labeling, personal protective equipment needs and storage requirements.

(5). Ensure all non-original containers are labeled with AMLD Label 5344. Labels are not required for small portable containers used for small quantities of chemicals transferred from a labeled container provided:

(a). The user of the chemical must be the one who transfers the chemical.

(b). The chemical must be for the immediate use by the employee and cannot be stored for more than eight hours.

(c). AMLD Label 5344 are obtained through the LEAD graphic department.

(6). Ensure labels are not removed or defaced by employees.

(7). Maintain a copy of the SDS and HMAG form, AMLD Form 4010, for each chemical in the workplace and ensure they are readily accessible during each work shift to employees in the work area. The SDSs shall be maintained in a binder with a listing of the inventory. The SDSs shall be placed in numerical order by the SDS number. An alphabetically cross-referenced inventory by product name will be placed after the SDS numbered inventory. No additional inventories will be maintained in the SDS binder.

(8). Initial and annual training will be provided and tracked in TED.

(9). Reject all shipments of chemicals that are not properly labeled, tagged, or marked.

(10). Advise contractor employees of any chemical hazards that may be encountered in the normal course of their work on the installation, the labeling system in use, the protective measures to be taken, and the safe handling procedures to be used. In addition, notify the contractor employees of the location and availability of SDSs.

h. Employees will:

(1). Adhere to the requirements of this regulation.

(2). Know where the SDSs are located and be familiar with the material and how to use it safely by reviewing the SDSs and its associated HMAG form, AMLD Form 4010.

(3). Know how to recognize and report leaks and spills.

(4). Not issue any chemical in an unlabeled container.

(5). Wear appropriate PPE when working with chemicals.

(6). Read and comply with SDSs, JSAs, and HMAG Approval forms.

(7). Report any changes in air quality or failure of PPE to the supervisor or the Safety Office.

i. The Industrial Hygiene Office will:

(1). Advise the Safety Office regarding the health hazards of chemicals or chemical products listed on the SDS through the use of the HMAG process.

(2). Recommend proper PPE.

(3). Assist the Safety Office with Hazard Communication Training when requested.

(4). Conduct shop air, breathing zone, and ventilation monitoring.

j. The Chief, Production Engineering Division will:

(1). Interface with the HMAG for all organizations within the scope of this regulation.

(2). Assist the HMAG in identifying less hazardous substitutes for hazardous material used on LEAD and ways to minimize the usage of all hazardous materials.

(3). Notify the HMAG of any suspended product to prevent reorder.

(4). Designate a knowledgeable staff member as representative to the Hazardous Material Management Team.

10-6. Disposal of Empty Pressurized and Non-Pressurized Metal Chemical Containers.

a. The purpose of this section is to provide guidance to all LEAD employees on the proper procedures for disposing of empty pressurized and non-pressurized metal chemical containers.

b. Definitions:

(1). **Dry paint can:** The paint within the can is dry to the touch and is not tacky. The paint within a dry paint can could be compared to the dry paint on a complete asset that is leaving the paint department. Please note that all residual wet paint should be removed prior to letting the can dry. If this does not happen, a screwdriver, or similar tool, should be used to puncture the paint to ensure that it is dried through. The reference for dry paint cans does not apply to pressurized aerosol type paint cans such as stencil inks.

(2). **Non-curable metal containers:** Chemical containers which possess a chemical which cannot meet the definition of a dry paint can above due to the type of chemical which is located within the container. Examples include automotive greases, paint thinner, and each component of two part epoxies. It is understood that some of the example containers have the ability to cure or dry out. However, the length of time to do so is unknown and there is no way to know whether or not these empty containers are cured or dried without exposing employees to an absorption or inhalation hazard. As a result, these containers will be considered non-curable due to the hazards they may pose to employees.

c. The classification of “Empty Containers” is outlined in EEJ-017, Waste Management: “A container is considered empty only if all waste or material has been removed that can be removed using commonly employed practices (e.g., pouring, pumping and aspirating), and no more than one inch of residue remains in the bottom of the container (drums) or no more than 3 percent by weight of the total capacity of the container remains in the container (containers less than or equal to 5-gallons).” Cans that meet the requirements of being empty are considered non-hazardous to the environment. However, there are safety and health hazards still present. These hazards are addressed in this procedure.

d. Empty metal chemical containers (excluding drums, barrels, and containers that will not fit in the can crusher) will be processed in accordance with the following procedure:

(1). All empty metal containers will be crushed and recycled by placing them within the metal scrap hoppers unless the cans do not fit within the crusher or crushing the can presents a risk that is not outlined or controlled within this procedure. The purpose of crushing empty metal cans is to help conserve space within the metal hoppers and to prevent the cans from blowing out during transport.

(2). All empty non-curable empty metal containers will be kept closed with their original lid or placed within a running ventilated paint booth until they are crushed to prevent the unintended off gassing of the non-cured chemicals in the shop environment.

(3). Employees will wear nitrile gloves during the crushing and disposal of non-curable containers. Tyvek coveralls or a general purpose work apron is recommended in the event the can crusher malfunctions and any uncured chemical escapes the crusher assembly.

(4). Empty and dry paint cans may be crushed only after the cans have dried in a ventilated and running paint booth. Only dry paint cans may be consolidated indoors until they are transported to an outside hopper. Only employees who have been trained in the proper operation of the can crusher my operate it.

(5). All lids will be removed prior to crushing. In the event that cans are not crushed, the lids of the cans will be removed prior to placing them in the outside metal hopper. When non-curable metal containers are ready to be recycled, they will be placed into outside metal hoppers ONLY. Inside storage of open or crushed non-curable empty metal containers is prohibited.

(6). All can crushers will be maintained in a clean and serviceable state. Any transfer of non- curable material will be cleaned after the crushing process has been completed. The interior and exterior of the can crusher will be kept as clean as possible from the buildup of all material, cured or not.

(7). Even though a container can be classified as being empty because it contains no more than 3% of its original contents, every effort should be made to remove excessive chemical residue by processes such as turning cans upside down to drain or using a spatula to remove excess grease from a container.

e. Pressurized (aerosol type) containers will be punctured and processed in accordance with the following procedures.

(1). Each building which punctures pressurized containers will assign individuals to perform this procedure. Only employees that have been trained in the procedures outlined in this section will be able to perform them.

(2). Empty pressurized containers will be punctured prior to recycling. Once the pressurized container has been punctured, it will be placed within the metal hopper outside ONLY. Indoor storage of punctured pressurized cans is prohibited.

(3). Empty pressurized cans will be consolidated near the can puncture system in a metal collection container (ex: 55 gallon drum) and labeled as a satellite hazardous waste accumulation point in accordance with EEJ-017.

(4). Employees will don nitrile gloves and respiratory protection with activated carbon filter cartridges during the puncturing and can recycling process. Tyvec coveralls or aprons are recommended in the event the can puncture system malfunctions and pressurized chemical contents escape the puncture or drum assembly.

(5). All can puncture systems will be maintained in a clean and serviceable state. All can puncture seals will be inspected, cleaned, and replaced as needed prior to and after any puncturing operation has been completed. All spills will be promptly cleaned.

(6). The top of the can puncture system will be closed and sealed tightly once puncturing operations have been completed.

(7). The aerosol puncturing accumulation drum will be equipped with a filter assembly which appropriately filters the vapors in the drum. Methods will be employed to ensure the filters are changed in accordance with the manufacture's recommendations. Methods may include a start date on the filters, a punctured can counting system, or a color code system.

(8). The can puncture system operators will stop puncturing operations if any of the following conditions exists:

(a). The contents of the can spray outside of the drum or puncture tool. The puncture system will be thoroughly inspected and the area will be cleaned prior to resuming puncturing operations.

(b). Employees in the area of the puncturing process complain of strong solvent smells indicating that the VOC filter or puncture system seals are not working as designed. If a root cause of the solvent smell source cannot be determined, the Safety Office will be contacted to conduct an investigation and a review of the process.

(c). The dates on the filter are past the manufacture's recommended service life.

(9). Pressurized cans that contain more than 3% of their original contents may be punctured and drained into the collection drum until they can be classified as being empty.

(10). All can puncture systems will be controlled by lock and key with only authorized and trained employees and applicable supervisors having access.

(11). Any chemical that is unfamiliar to the puncture system operator or chemical that is not labeled will only be punctured after the Environmental Management Division has been contacted to verify its safe disposal.

Chapter 11

Heavy Metal and Respirable Dust

11-1. Purpose. Identify and define responsibilities, procedures, and control measures to minimize employee exposure to lead, cadmium, and chromium at LEAD.

11-2. References. Required and related publication and prescribed and referenced forms are listed in Appendix A.

11-3. Definitions.

a. **Clean Locker:** An employee locker that is used for the storage of employee personal items and clean uniforms and coveralls.

b. **Contaminated:** Any item that can reasonably be expected to contain potentially hazardous material. Any item that is contaminated must be controlled and considered hazardous until it has been properly disposed of or cleaned.

c. **Dirty Locker:** An employee locker that has been designated and labeled for the storage of PPE and tools that have been in contact with potentially hazardous material.

d. **Ototoxin:** Excessive exposures to a workplace ototoxin (ear poison) can also result in hearing loss. Such agents as lead, a variety of solvents, and carbon monoxide are known ototoxins with other agents such as cadmium suspected. In combination with noise exposure, ototoxins can have a synergistic impact on hearing, producing more damage than exposure to either hazard alone. Activities where noise and ototoxins often combine include painting, printing, construction, and the manufacturing of metal. Enrollment in the hearing conservation program is mandatory when exposure to an ototoxin exceeds 50% of the Occupational Exposure Limit (OEL) for that ototoxin regardless of noise exposure level.

e. **Potentially Hazardous Material:** Material such as dust, dirt, or other small particles that have the possibility of containing lead, cadmium, or chromium that could pose an inhalation, absorption, ingestion, or injection hazard to employees who disturb or work with the material. Common examples include grinding dust, sanding dust, and all blast media.

f. **Regulated Area:** An area demarcated by the industrial hygiene and Safety Office where an employee's exposure to airborne concentrations of lead, cadmium or chromium exceeds, or can reasonably be expected to exceed the Permissible Exposure Limit (PEL).

11-4. Responsibilities.

a. The Safety Office will:

(1). Serve as the primary program administrator of the lead, cadmium, and chromium program.

(2). Audit compliance with this chapter and other applicable regulations.

(3). Provide a written letter to the COR of the uniform cleaning contract notifying the contractor of the presence of potentially hazardous material. The COR will forward the letter to the contractor.

b. The Industrial Hygiene (IH) Office will:

(1). Conduct appropriate air and other samplings to determine levels of lead, cadmium, and chromium. Based on these results, identify regulated areas based on sampling results. Sampling practices, procedures, and recommendations will be completed so as to assist LEAD in complying with DODI 6055.01 Appendix to Enclosure 4: "Implementing Guidance for Controlling Surface Contamination in Operations Using Lead, Hexavalent Chromium, and Cadmium."

(2). Provide exposure assessment letters following each restricted area sampling or restricted area identification to the Safety Office. The Safety Office will in turn communicate the contents of IH letters to management and work areas. The letter will include recommendations for medical surveillance as well as engineering, administrative, and PPE controls to reduce employee exposure to potentially hazardous material. If lead, cadmium, or chromium results have been reduced to a level consistently below the action level for at least 12 months, the area may be deregulated. Deregulated areas will be established in writing with applicable documentation supporting the deregulation of the area.

(3). Maintain a list of all current restricted areas, which detail specifics about the operation, corresponding sampling results, as well as recommended and implemented engineering, administrative, and PPE controls. These records will be maintained in accordance with applicable guidance.

(4). Provide lead, cadmium, and chromium training to employees who are required to enter regulated areas and employees who may be exposed to potentially hazardous material.

(5). Maintain a list of employees who have received required lead, cadmium, and chromium training and are authorized to enter regulated areas. This list will be regularly updated and provided to supervisors and the Safety Office upon request. This list will include the employee's name, social security number, and job classification.

c. The LEAD Clinic will maintain a medical surveillance program which meets the minimum requirements of 29 CFR 1910.1025, 29 CFR 1910.1026, or 29 CFR 1910.1027

d. The Production Engineering Division (Engineering Support Branch and Industrial Equipment Maintenance Branch) will work together to reduce employee exposure to lead, cadmium, and chromium to the lowest possible level through a properly managed and documented preventative maintenance program as well as engineering and administrative controls. Such controls will be communicated to management, employees, industrial hygiene, and the Safety Office. Additional measures will be taken to document and maintain both implemented and non-implemented controls. Every effort will be made to draw a correlation between the implementation of controls and industrial hygiene sampling results. Improvements in performance will be documented and maintained for the life of affected equipment and work areas.

e. Supervisors will:

(1). Serve as the primary point of contact within a work area authorizing entrance into regulated areas.

(2). Provide employees with appropriate personal protective equipment so entrants into regulated areas are adequately protected from potentially hazardous materials within regulated areas. Recommendations from the industrial hygiene office and Safety Office will be the primary source for determining the types of PPE that will be used.

(3). Ensure all regulated areas are maintained and controlled in accordance with this chapter.

(4). Immediately stop any employee, government or contractor, who violates the requirements of this chapter or the JSA for the operation.

(5). Strictly enforce all requirements of this regulation.

(6). Archive all operator checklists for a period of at least two (2) years. If the supervisor leaves an area, archived checklists will be passed onto the next supervisor.

f. Employees will:

(1). Comply with all applicable components of this regulation.

(2). Use tools, procedures, and additional PPE to help reduce excessive wear of protective clothing and to assist in reducing the exposure to potentially hazardous material.

(3). Have the right to request hazard classification and location information, sampling results and exposure records in accordance with 29 CFR 1910.1020, 1910.1200 of Reference (f) and DoDIs 6050.05 and 6055.05 (References (s) and (t)).

g. Labor Contracting Officer Representative (COR) will:

(1). Notify contractor management of regulated areas and the requirements within this chapter.

(2). Communicate with contractor on the support and services that will be provided by the government and the support and services which the contractor management must provide.

(3). Work with the Safety Office to audit contractor compliance to this chapter and other applicable regulatory guidance.

11-5. Policy.

a. Areas which have been classified as a regulated area will be posted with signage in accordance with 29 CFR 1910.1025, 29 CFR 1910.1026, or 29 CFR 1910.1027. Exact wording of the signs will be provided by the Safety Office.

b. Training: All persons who enter regulated areas must receive lead, cadmium, and chromium user level training prior to entering any regulated area. Under no circumstances may an employee enter a regulated area without documented training.

c. Medical Surveillance: All government employees who enter a regulated area are required to participate in the established medical surveillance program provided by the LEAD clinic. All contractor employees who enter a regulated area that is controlled by the government will participate in a medical surveillance program which meets the minimum standards of 29 CFR 1910.1025, 29 CFR 1910.1026, 29 CFR 1910.1027 and DA PAM 40-501. Lead is a confirmed ototoxin and Cadmium is suspected. As far as is known, Hex Chrome is not an ototoxin. Recommend inclusion in the HCP if exposures to lead or cadmium exceed 50% of the OEL.

d. Personal Protective Equipment (PPE):

(1). All individuals entering a regulated area will don appropriate respiratory protection and other PPE which complies with industrial hygiene recommendations and the JSA for the operation. Employees who are issued respiratory protection will participate in the respiratory protection program outline in Chapter 8 of this regulation.

(2). Personal protective clothing:

(a). Employees will wear a clean and serviceable set of protective clothing before entering a regulated area at the start of their shift. Protective clothing will be specifically designed for the operation in which the exposed employees are participating.

(b). Protective clothing will only be removed from the employee while the employee is located within a designated marked location for doing so, such as a change room.

(c). All contaminated protective clothing will be placed into a designated and labeled temporary storage locker when employees desire to take a break outside of the regulated area or designated changing room. All temporary storage locations will be cleaned using a HEPA-vacuum. Under no circumstances will contaminated protective clothing be worn in any location other than the regulated area, the immediate area outside a regulated area, areas of potentially hazardous material clean up, or to and from designated changing rooms.

(d). At the end of the shift, all contaminated clothing will be placed within specially marked and designated collection bins for laundering or disposed in accordance with appropriate hazardous waste disposal procedures. Exact wording on collection bins will be provided by the Safety Office.

(e). Under no circumstances may contaminated protective clothing be worn for more than one work shift. Once a work shift is complete, contaminated clothing will be placed within appropriate laundry bins or waste containers.

(f). All contaminated PPE will be cleaned with a HEPA vacuum prior to storage. Once cleaned, PPE will be stored in a designated location specifically established and labeled for the storage of contaminated PPE.

(3). Under no circumstances may employees remove contaminated PPE from a regulated area or contaminated storage location for reasons other than use during work within a regulated area or potentially hazardous material cleanup/handling. This includes but is not limited to taking protective clothing, gloves, or aprons into break areas or taking potentially contaminated clothing or safety shoes home for laundering or any other purpose.

e. Housekeeping:

(1). All surfaces will be maintained as free as practicable of accumulations of potentially hazardous material. This includes all areas both regulated and non-regulated. Non-regulated areas may include temporary storage lockers of contaminated PPE, paint booths, and storage areas of equipment.

(2). Respiratory protection will be worn by all employees cleaning potentially hazardous material within regulated areas or in areas where potentially hazardous material may need removed. Employees without respiratory protection should remain at least 10 feet from cleanup operations.

(3). Dry sweeping of potentially hazardous material is not authorized within or outside of regulated areas. Only HEPA vacuums will be used to remove potentially hazardous material.

(4). Extreme caution will be exercised when handling bulk quantities of potentially hazardous material such as vacuum reservoirs and dust collection bins. Every effort will be made to minimize the re-entry of potentially hazardous material into the workplace or air.

f. Employee Hygiene:

(1). All employees who enter a regulated area will exercise good personal hygiene practices.

(2). Excess potentially hazardous material will be removed from employees prior to or immediately after exiting a regulated area using a HEPA vacuum. (A second person or vacuum tool should be used to remove media from the back of the employee who is exiting the regulated area). Under no circumstances will employees blow, shake, or use any other method that would make potentially hazardous material airborne to remove potentially hazardous material from employees or PPE.

(3). Employees who are exposed to potentially hazardous material while working within a regulated area will shower at the end of the shift or once work within the regulated area has been completed.

(4). LEAD will provide adequate change room and shower facilities within a reasonable distance of regulated areas.

(5). Employees who have worked within regulated areas or have conducted cleanup operations of potentially hazard material will wash their hands and face prior to eating, drinking, using tobacco products, chewing gum, or applying cosmetics.

g. Other Requirements:

(1). Eating, drinking, use of tobacco products, chewing gum, and the application of cosmetics is prohibited in regulated areas and during cleanup of potentially hazardous material.

(2). Work areas will establish and maintain an accurate and current JSA on all operations where employees may be exposed to potentially hazardous material. Applicable JSAs will be read by all

employees, government and contractor, prior to starting work. Initial and annual employee review of JSAs will be documented on AMLD form 4161.

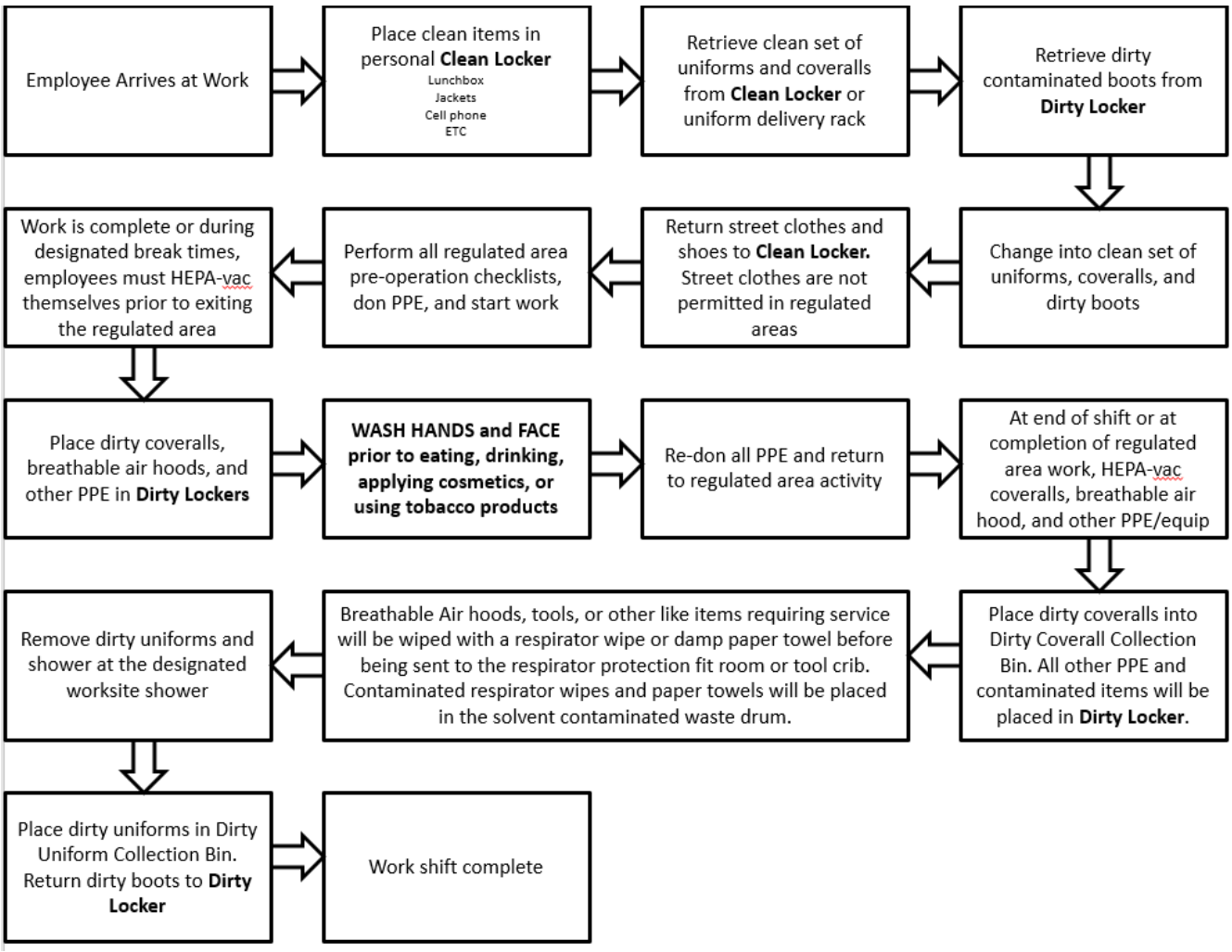
(3). Deviations from the requirements for regulated areas may be granted by the Safety Office on a limited basis. For example, employees who enter a regulated work area for a short period of time while dust generating operations are not occurring may reduce the level of PPE required within the area and may not be required to shower at the end of the shift. This includes employees such as industrial hygienists, safety specialists, and supervisors who only enter the regulated area for surveillance purposes and are not exposed to potentially hazardous material in airborne form. Such exemptions will be provided in writing by the Safety Office only. Written approval must be received prior to implementing the relaxed standards.

(4). Abrasive blaster operators who work within walk-in blast booths will not be permitted to wear personal “street” clothes under protective clothing while working within the blast booth with the exception of undergarments such as underwear and socks.

(5). All waste collection points that contain potentially hazardous material will be labeled. Exact wording for these containers will be provided by the Safety Office. The labels for these containers must be applied prior to adding any potentially hazardous dust to the container.

(6). Operations which have the potential (such as; blast, sanding, or other dust generating operations) to become regulated areas may be required to comply with portions or all of the requirements of this chapter. Recently deregulated areas would fall into this category. The Safety Office will provide guidance on a case by case basis for which portions of this chapter apply to potentially hazardous work areas.

Chart 11-1. Regulated Area Employee Personal Hygiene and Personal Protective Equipment (PPE) Management Flow Chart.



Chapter 12

Lockout/Tagout Program

12-1. Purpose. Establish responsibilities and procedures for the safe servicing and maintenance of machines and equipment, in which unexpected energized equipment, damage to equipment or start-up of machines or equipment, or release of stored energy, could cause injury to employees. Additionally, to further establish an administrative/operations lock program to clearly delineate lockout/tagout from removal from service.

12-2. Definitions.

a. **Affected Employee:** An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.

b. **Capable of Being Locked-Out:** An energy-isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

c. **Energized**: Connected to an energy source or containing residual or stored energy.

d. **Lockout:** A positive means of disabling equipment or machinery from its power source rendering such controls or devices inoperative while repairs and/or adjustments are being made to the equipment, machinery, and its power source.

e. **Maintenance and/or Servicing:** This includes workplace activities such as construction, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

f. **Multiple Energy Sources:** Equipment or machines that are subject to the lockout and tagout standard may possess more than one type of hazardous energy. These may be in the form of mechanical, electrical, hydraulic, pneumatic, chemical, thermal, gravity, steam, or other types of energy. Any such hazardous energy sources must be locked out or tagged out and all stored energy dissipated and/or restrained before an authorized employee engages in a servicing and maintenance activity.

g. **Residual Energy:** Power or energy remaining in the equipment and/or machinery after power source is terminated, such as movement of machinery parts created by spring or hydraulic pressure.

h. **Tagout:** The process of posting accident prevention tags. The tags are a “temporary” means of warning all concerned of a hazardous condition and defective equipment. The tags are not to be considered as a complete warning method; for example, a “DO NOT START” tag on power equipment can be used only for a few moments until the switch in the system can be locked out.

12-3. General.

a. The purpose of locking and tagging is to ensure the safety of individuals working on power-driven equipment by preventing it from being inadvertently activated or energized while being worked on. This includes electric, steam, air/pneumatic, hydraulic, thermal, or gas-powered equipment and/or electrical circuits. Whenever power-driven equipment or an electrical circuit is being worked on, it must be locked out.

b. Safety locks and danger tags will be used to lock/tag equipment when making repairs or adjustments, lubricating, cleaning, or doing any work where there is danger of being injured should the equipment be started or put into operation while such work is performed. This may include adjacent equipment if that equipment poses a hazard for the authorized person. The lockout device will be accompanied by a “Danger” tag that has the worker’s full name, date of installation and remarks. All writing on tags should be legible. These tags will be red and white striped. The "Danger" will be white on red background with black border.

(1). Locks must be:

(a). Durable and Substantial

(b). Weather resistant

(c). Standardized & Identifiable

(d). Adequate in size and correct for the application

c. Locks will be used on all equipment capable of being physically locked out. Tags warning of the danger will also be used in conjunction with locks.

d. If it is not possible to utilize a lock, a danger tag will be placed at the location of the activation switch or other activation device.

(1). Danger tags will be affixed with a singular use device such as but not limited to zip ties.

(2). Danger Tags will only be used by authorized LO/TO personnel.

(3). Removal of Danger tags will comply with all other provisions of chapter 12 of this program.

e. No one except the individual(s) that placed a lock/tag are permitted to perform any work on the equipment. This includes that no employees will clean or clear material out of a piece of equipment that has been locked out if they themselves did not affix a lock to the equipment.

f. No one except the individual who placed the safety lock/tag on the equipment shall remove it. The only exception will be made when the person who placed the lock or tag is not in the area and cannot be contacted. In such cases the supervisor must personally survey and evaluate the entire work area to determine if the lock/tag can be removed without endangering personnel. The supervisor will notify the individual who placed the lock/tag, that the lock/tag has been removed immediately upon the individual returning to the work area.

g. After equipment has been locked out or tagged, the equipment must be tried to be sure it will not operate.

h. When locking/tagging out hydraulically and/or pneumatically activated equipment, these additional precautions must be taken:

(1). Check the hydraulic unit to make certain the pump is not operating. At the same time, make a visual check of the pressure gauge.

(2). Before breaking or opening any airlines, bleed the pressure from all lines and units.

(3). Check the hydraulic system to see if it has an accumulator. If it does, open the discharge valve and discharge the pressure back to the tank.

i. Whenever outside servicing personnel (e.g., contractors) are to be engaged in activities covered by this chapter, the in-house supervisor and the contractor shall inform each other of their respective lock out/tag out procedures.

j. In order to maintain accountability, lockout locks will be color coded as follows:

(1). DOPS Equipment Maintenance will use **ORANGE**.

(2). DPW Utilities Division will use **BLUE**.

(3). LEMC will use **YELLOW**.

12-4. Responsibilities.

a. Commander will:

(1). Ensure an overall development of the Lockout/Tagout Program is established and maintained.

(2). Ensure that all personnel receive appropriate training prior to becoming involved with the Lockout/Tagout Program.

b. Safety Office will:

(1). Advise and assist directors and supervisors in the safe performance of equipment, machinery lockout and tagout procedures.

(2). Provide or assist in periodical training as requested.

(3). Conduct annual audits of all established Lockout and Tagout programs to ensure compliance.

c. Directors will:

(1). Ensure personnel responsible for the lockout and tagout procedures receive training in hazards and correct procedures to follow with lockout and tagout.

(2). Maintain records of required training for each employee.

(3). Ensure resources are available to safely lockout and tagout machinery and equipment.

d. Supervisors will:

(1). Ensure only authorized and trained personnel conduct lockout and tagout operations on equipment and machinery electrically operated and/or containing residual energy.

(2). Ensure personnel are trained in the hazards of using defective equipment, machinery and portable tools.

(3). Ensure electrically powered or residual containing equipment or machinery requiring maintenance is immediately locked out and tagged out of service.

(4). Ensure work is stopped on machines that are serviced by the same electrical circuit as the machine being repaired, when repairs are being conducted without removing machine from building.

(5). Maintain a completed copy of AMLD Form 3635-R for all equipment that does not meet the definition of equipment not requiring AMLD Form 3635-R in paragraph 12-6 b. below.

(6). Conduct periodic audits annually of each authorized person as they execute lockout tagout procedures. These audits will be documented to identify the auditor (must be an authorized person), employee(s) audited, date, piece of equipment, and procedure ID. Any deficiencies identified in the procedure or the actions of the employee will be documented. Corrections to the procedures annotated and sent back to the generating source for execution. Employees that failed to follow

procedures or fully isolate energy sources shall be retrained before being permitted to perform any further lockout/tagout.

(a). A list of all authorized person will be maintained, as each employee is audited the auditor will sign off. The auditor will be an authorized member of the Safety office.

(b). The audit records will be maintained for three years.

12-5. Waivers/Exemptions. Waivers or exemptions to OSHA standards implemented by this regulation are not authorized. Requests for alternate or supplements will be submitted to the LEAD Commander through the Safety Office and respective directorate.

12-6. Controls.

a. Procedures (AMLD 3635-R): Procedures will clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be used for the control of hazardous energy, and the means to enforce compliance.

NOTE

For work on electrical energy sources of 50 volt or more, a copy of 29 CFR 1910.333(b) – 333(b)(2)(v)(D) shall be readily available in lieu of specific procedures.

b. Requirements: No documentation of procedure is required for a particular machine or equipment when **all** of the following elements exist:

(1). The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shutdown, which could endanger employees.

(2). The machine or equipment has a single source, which can be readily identified and isolated.

(3). The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment.

(4). The machine or equipment is isolated from that energy source and locked-out during servicing and/or maintenance.

(5). A single lockout device will achieve a locked-out condition.

(6). The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.

(7). The servicing or maintenance does not create hazards for other employees, and in utilizing this exception, had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing and/or maintenance.

12-7. General Procedures. All equipment will be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device when it is locked or tagged out. The sequence of lockout/tagout system is as follows:

a. The machine operator and supervisor must be notified prior to beginning maintenance.

b. Wear and utilize all personal protective equipment required for the operation and location.

c. Identify all sources of residual energy and complete the AMLD form 3635-R.

d. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy such as that in springs; elevated machine members; rotating flywheels; hydraulic systems; and air, gas, steam, or water pressure; etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc. (types of stored energy methods to dissipate or restrain). Steam sources require double-boundary protection.

e. Lockout and/or tagout the energy isolating devices with assigned individual lock(s) or tag(s) selected; i.e., locks, tags, additional safety measures, etc.

f. Disconnect the lockout equipment or machinery from its power source(s), whether the source is electrical, mechanical, pneumatic, and hydraulic or a combination of these, before conducting maintenance.

g. Bleed down energy accumulating devices.

h. Only the authorized person will have a key to the padlock. The shop supervisor may maintain an additional key to the padlock so long as the key is maintained in a key box in accordance with AR 190-51 and only designated shop leadership having access to the key box.

(1). Secondary keys (Master Keys) for lock out devices shall be maintained in an approved key box and shall only be accessed through written approval by a GS 13 (O-4) or above. The key control box shall be located in the command building and only accessible by the commander or deputy.

(2). Prior to granting approval, the employee having lost the key shall present themselves and be counseled on key control. Or in the event the employee is no longer on site. The area supervisor and the director over the authorized employee must document both written (email) and document the phone call to the employee with voice message. 30 minutes will be given prior to requesting the use of the “Master Key” except in the case of an emergency. If the employee left work do to an emergency, the supervisor could certify for the justification to remove his lock utilizing the Master Key approval system.

i. Group lockout.

(1). When servicing and/or maintenance is performed by a crew, craft, department, or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

(2). Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

j. Test the power at the job after lockout to ensure that the correct circuits were locked out.

k. Place signs and tags along with lockouts, not instead of lockouts.

l. Upon completion of maintenance, replace, secure, and check all machine safeguards that were removed to ensure they are functioning properly.

m. Remove padlocks only after ascertaining that the machine is ready to perform safely and cleared for operation.

n. Alert the operator and supervisor before restoring power.

o. Shift or personnel changes.

(1). Specific procedures shall be utilized during shift or personnel changes to ensure the continuity of lockout/tagout protection, including provision for the orderly transfer of lockout/tagout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment, or the release of stored energy.

(2). In the event of a shift or personnel change that is reasonably anticipated the use of a hasp will ensure that the incoming authorized person can affix their lock prior to the outgoing person removing their lock.

(3). In the event of an unanticipated shift change or personnel change. The outgoing employee will wait to be relieved by another authorized person. In the event of an emergency departure, basic principles of the Master Key system shall be utilized with written approval in accordance with paragraph (h) of this section.

12-8. Training.

a. General training: Training will be provided to ensure that employees understand the purpose and function of the energy control program and that the knowledge and skills required for the safe application, usage and removal of energy controls are acquired by employees.

b. Specific training:

(1). Retraining will be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment, or processes that present a new hazard, or when there is a change in the energy control procedures.

(2). Additional retraining will also be conducted whenever a periodic inspection reveals problems in the employee's knowledge or use of energy control procedures. Retraining may also be provided whenever an employer has reason to believe that there are deviations in the use of energy control procedures. Retraining is used to reestablish employee proficiency and introduce new or revised control methods and procedures as necessary.

(3). Records: Records must be kept of all training and retraining to certify that it is being accomplished and updated. The certification must contain each employee's name, assigned organization and dates of the training. These records shall be incorporated into the Total Employee Development (TED) training database.

12-9. Safety Tags.

a. Assist with identifying hazardous conditions to communicate to supervisors and employees information with respect to hazardous conditions and to meet specific tagging requirements of OSHA standards and Army safety regulations.

b. Authority and Responsibility.

(1). Personnel authorized to "tagout" equipment with any of the below listed tags are as follows:

(a). Safety/health/fire inspector.

(b). Radiation Safety Officer (RSO)/Alternate Radiation Safety Officer (ARSO).

(c). DES personnel: Security personnel and Fire and Emergency Services personnel.

(d). Maintenance/electrical technicians.

(e). Any operational supervisor.

c. Danger Tags may be removed only by the following personnel:

(1). The person who signed and/or placed the tag on the equipment.

(2). The Safety Manager.

(3). Commander.

NOTE

Equipment tagged with “DANGER” will be deadlined until deficiencies have been corrected.

d. The following personnel may remove the Warning Tags:

(1). The person who signed and/or placed the tag on the equipment.

(2). Commander.

(3). The Safety Manager.

(4). Respective Division chief.

NOTE

Equipment may be operated with a Warning Tag affixed, if the conditions of use listed on the tag are met and a division chief or higher authority is notified and gives their approval.

e. A Caution Tag does not preclude operation of equipment if all conditions of use listed on the tag and appropriate JSA, SOP, or work cell procedures are followed. Equipment tagged with caution tags must be operated only with the use of specific precautions.

f. Notice Tags do not restrict operation of the equipment. This is simply an informational tag, normally relating to technical data.

g. Tag Removal/Operation of Equipment.

(1). The removal of a tag or operation of equipment in violation of the tag is also in violation of OSHA and will be considered willful misconduct and appropriate disciplinary action will be taken by the chain of command.

h. Appropriateness of Tag/Operating Equipment.

(1). Disputes as to the appropriateness of a tag or operating restrictions will be referred first to the Safety Office and, if not resolved, to the Commander.

i. Content of Tags.

(1). All safety tags will clearly identify the time, date, and identification of responsible individual, organization, and telephone extension.

j. Standard of Tags.

(1). All safety tags used on LEAD will conform to this standard. Contractors and outside agencies on LEAD will not use non-standard tags to convey safety restrictions on equipment. Tags used for other purposes are not covered or restricted by this standard.

k. Placing of Tags.

(1). Cost center supervisors will be contacted when it is necessary to affix tags stopping operation of a piece of equipment and will be given an opportunity to discuss the matter. If a difference of opinion exists, equipment will be tagged out and a meeting of chain of command personnel held as soon as possible to resolve the issue.

(2). Authorized individuals placing tags on equipment will maintain a listing of tags used, location, date, time, and provide a copy to the Safety Office as soon as possible.

(3). Placement of tags may be positioned on equipment by personnel responsible for the operation or maintenance of that equipment, their supervisor, or Safety Office personnel. Where fire protection or environmental deficiencies are involved, authorized personnel from those organizations may also place and remove tags as specified in this regulation. In all cases, the Safety Office and management responsible for the area will be notified.

l. Danger Tag. Indicates immediate hazard that presents a threat of death or serious injury to employees. Equipment tagged with Danger Tags will not be operated under any circumstance. These tags will be white. The "Danger" will be white on red background with black border. Danger Tag means equipment will be dead lined until deficiencies are corrected. The tag will have the worker's full name, date of installation, and remarks. All writing on tags must be legible.

m. Caution Tag. Used in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury. Caution Tag means equipment may be operated only with the use of specific precautions. These signs will be yellow, the word" Caution" in yellow letters on a black background. Any letters used against the yellow background will be black. The tag will have the worker's full name, date of installation, and remarks. All writing on tags must be legible.

n. Biological Tag. Used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof; which contain or are contaminated with hazardous biological agents. For the purpose of this regulation, the term "biological" will include only those infectious agents presenting a risk of death, injury or illness to employees. The tag will be orange with lettering and the biohazard emblem will be in black. A biological hazard tag may be used in combination with another tag to identify the level of warning; i.e., danger, warning, cautions, or notice. The tag will have the worker's full name, date of installation, and remarks on tags must be legible.

12-10. Administrative Lockout.

a. Purpose: Administrative locks and tags program is to provide guidance for how to convey messages related to hazards and effectively take equipment out of service and prevent unauthorized use of equipment. This is to ensure that LO/TO devices and procedures stay within the scope of servicing and maintenance.

(1). Administrative lockout example: An administrative lock would be applied by Timmy because he wants to prevent employees from other cost centers from using the equipment in his area. John has a saw that is going to be out of service for months awaiting parts, he would lock it out administratively until the parts arrive at which time the "authorized person" would implement full LO/TO.

b. Administrative locks shall be used by supervisors, safety personnel, and management for the purpose of controlling access to equipment.

c. Each administrative lockout functional group identified in 12-10 b will be issued as noted below and keys maybe stored in standard key control boxes.

(1). Safety Office will use **GREEN**.

(2). Fire Department will use **RED**.

(3). Cost centers will use **BRASS** colored locks. The use of color coded locks is strictly prohibited.

d. Administrative locks shall never be used in place of LO/TO devices for the performance of service or maintenance.

e. If a piece of equipment is under an administrative lock and maintenance personnel wish to inspect, clean, or work on the equipment, the administrative lock shall be removed and all aspects of hazardous energy control LO/TO will be performed by authorized persons.

f. Tags that are used for the purpose of LO/TO will not be used for the purpose of administrative lockout. Tags for administrative lockout shall be Notice Tags. Tags shall include at a minimum the name and phone number of the person who applied the lock and tag.

g. Warning Tags shall be used to identify a hazard or piece of equipment that has a deficiency but does not pose a serious hazard to personnel if used. These tags can be affixed by those groups identified in 12-9(a) of this regulation. The following personnel can remove a Warning Tag:

(1). The person who signed and/or placed the tag on the equipment.

(2). Commander.

(3). The Safety Manager.

NOTE

Equipment may be operated with a Warning Tag affixed, if the conditions of use listed on the tag are met and a division chief or higher authority is notified and gives their approval.

h. A Caution Tag does not preclude operation of equipment if all conditions of use listed on the tag and appropriate JSA, SOP, or work cell procedures are followed. Equipment tagged with caution tags must be operated only with the use of specific precautions.

i. Notice Tags do not restrict operation of the equipment. This is simply an informational tag, normally relating to technical data.

j. Tag Removal/Operation of Equipment.

(1). The removal of a tag or operation of equipment in violation of the tag is also in violation of OSHA and will be considered willful misconduct and appropriate disciplinary action will be taken by the chain of command.

k. Appropriateness of Tag/Operating Equipment.

(1). Disputes as to the appropriateness of a tag or operating restrictions will be referred first to the Safety Office and, if not resolved, to the Commander.

l. Content of Tags.

(1). All safety tags will clearly identify the time, date, and identification of responsible individual, organization, and telephone extension.

m. Standard of Tags.

(1). All safety tags used on LEAD will conform to this standard. Contractors and outside agencies on LEAD will not use non-standard tags to convey safety restrictions on equipment. Tags used for other purposes are not covered or restricted by this standard.

n. Placing of Tags.

(1). Cost center supervisors will be contacted when it is necessary to affix tags stopping operation of a piece of equipment and will be given an opportunity to discuss the matter. If a difference of opinion

exists, equipment will be tagged out and a meeting of chain of command personnel held as soon as possible to resolve the issue.

(2). Placement of tags may be positioned on equipment by personnel responsible for the operation or maintenance of that equipment, their supervisor, or Safety Office personnel. Where fire protection or environmental deficiencies are involved, authorized personnel from those organizations may also place and remove tags as specified in this regulation. In all cases, management responsible for the area will be notified.

o. Caution Tag: Will be used under the administrative lock out process and can be used independently to alert personnel of a minor hazard, where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury. Caution Tag means equipment may be operated only with the use of specific precautions. These signs will be yellow, the word" Caution" in yellow letters on a black background. Any letters used against the yellow background will be black. The tag will have the worker’s full name, date of installation, and remarks. All writing on tags must be legible.

p. Biological Tag: Used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof; which contain or are contaminated with hazardous biological agents. For the purpose of this regulation, the term "biological" will include only those infectious agents presenting a risk of death, injury or illness to employees. The tag will be orange with lettering and the biohazard emblem will be in black. A biological hazard tag may be used in combination with another tag to identify the level of warning; i.e., danger, warning, cautions, or notice. The tag will have the worker’s full name, date of installation, and remarks on tags must be legible.

Chapter 13

Motor Vehicle Operators Safety Code

13-1. Purpose. Provide a code of safe operation for all vehicles operated at LEAD.

13-2. General.

a. The operation of any Army motor vehicle owned or leased by the government in an unsafe condition or not roadworthy is prohibited except as stated in paragraph “d” below. Examples of “roadworthy” conditions are improper functioning or improper adjustment of:

(1). Braking system, including emergency brakes, is fully operational.

(2). Steering and suspension systems in proper operation with no missing or broken parts.

(3). Lights, including turning signals, are installed and operational.

(4). Seat belts are operational and anchor points are not broken.

(5). Windshield wipers are installed and operational.

(6). Horn or other acceptable audible warning device is operational.

(7). Interior and exterior mirrors are installed, not cracked or broken, and properly adjusted.

(8). Tires have adequate tread, air pressure, and no cord or ply exposure, bumps, bulges, or separation.

(9). Exhaust system is installed.

(10). Bumpers, fenders, hood, doors, floor panel, fuel cap, etc are installed and properly secured.

(11). Windshield is installed, glass not shattered, broken or has any exposed sharp edges, and visibility not obscured.

b. All government vehicle operators (military and civilian) who operate a commercial, tactical, police, or emergency vehicle, which includes government owned or leased vehicles, will be trained, tested, and issued an US Government Motor Vehicle Operator’s Identification Card, OF 346. Operators must have their OF 346 in their possession while operating vehicles. In addition, all civilian operators must have in their possession a valid state operator’s license to operate any government or leased vehicle. To operate a commercial motor vehicle, civilians’ state operator’s license must be a commercial driver’s license with applicable endorsements.

c. Installed seat belts are required to be worn while driving or riding in privately owned motor vehicles at LEAD. Also, installed seat belts are required to be worn while driving or riding in all Army motor vehicles to include GSA’s and any vehicle during performance of official duty (including off-depot and temporary duty travel).

d. If a vehicle is not considered roadworthy or exceeds size and weight limits set by Pennsylvania state vehicle code and must be moved on public road, then the vehicle must be escorted by a vehicle with yellow lights. Escort, driver, and lights will be provided by respective directorate, i.e. Directorate of Industrial Operations for MRAPS. Security can assist through state intersections leading into the installation and can be arranged by calling 267-8800. Reference 32 CFR 634.41.

e. All occupants of a tactical vehicle will don a military tactical helmet or DOT rated equivalent motorcycle helmet during field (tactical) operations in accordance with AR 385-10. Examples of these types of operations at LEAD include test track operations, driving of tactical vehicles off improved roads, or instances where employees would take tactical vehicles off the depot for equipment requiring specialty work at a local dealership or special purpose shop off the installation. Between building movement with tactical vehicles on LEAD or within the Cumberland Valley Business Park for maintenance and repair purposes, do not require the use of helmets.

13-3. Operator Roles and Responsibilities.

a. Before, during, and after operation, the driver of the vehicle must ensure:

(1). Safe operation of the vehicle.

(2). Safety and comfort of the passengers.

(3). Security of the cargo entrusted to them.

(4). Care and servicing of the vehicle.

(5). Exercising common sense.

b. All deficiencies of the vehicle should be recorded on AMC Form 2205, Installation Equipment Management System (IEMS) Mobile Equipment Utilization Record, by the operator. The operator will either notify the Transportation and Service Branch in the Directorate of Public Works (DPW) of any unsafe condition of the vehicle or report the unsafe condition to their immediate supervisor who will follow the same reporting procedure. Under no circumstances will a vehicle with an unsafe condition be operated until given approval is received.

c. Operators of government owned or GSA vehicles will not complete maintenance or repair of vehicles they operate. Operators shall contact DPW motor pool or their respective GSA dealer.

d. Complete cleaning of headlights, all windows, truck bed, mirrors, etc., from dirt, snow and ice must be done by driver as often as needed.

e. The driver is expected to be familiar with the State Motor Vehicle Code and rules of the Department of Transportation (DOT) for off-depot transportation and abide by them.

f. Drivers of Army vehicles operating over public highways must assure their vehicle is equipped with approved highway warning devices. Whenever a vehicle is stopped, inoperative, or unable to move on a traveled portion of any highway or on the shoulder next to it, the following action must be taken:

(1). Move vehicle onto shoulder, if possible.

(2). Place one warning device in the center of the lane in which you are stopped, 100 feet in the direction of approaching traffic in the same lane as your vehicle.

(3). Place one warning device on the traffic side of your vehicle, 100 feet behind in the direction of approaching traffic in the same lane as your vehicle. Also, place one warning device 100 feet from your vehicle in the opposite direction.

(4). If stopped within 300 feet of a curve, crest of a hill, or other obstruction to view, the warning device in that direction will be placed 200 to 300 feet from your vehicle.

g. Drivers of motor trucks will not back vehicles without first checking for clearance and giving adequate warning. If rear visibility is obstructed by cargo or otherwise limited, drivers must use guides.

h. A signal person will be provided when the point of operation is not in full view of the vehicle, machine, equipment operator; vehicles are backed more than 100 ft; terrain is hazardous; or two or more vehicles are backing in the same area. Trucks, 2 ½ tons or larger, will use guide personnel, if available, before backing. Ground guides must be in view of the driver at all times. If ground guides are not available, the driver will dismount and check clearance before backing.

i. Use of tobacco products is prohibited in government vehicles.

j. Use of hand-held cell phones is prohibited while operating a government vehicle. Use of a hand held cell phone while operating a privately-owned vehicle on-post is also prohibited.

13-4. Procedural Requirements.

a. All operators will be guided by the following:

(1). When first driving on snow or ice, test braking and stopping ability at a low speed in a safe location.

(2). Maintain a safe distance between all moving vehicles. Such distance is usually one vehicle for every ten miles of speed. Refer to Table 13-1 for safe stopping distances.

(3). Turning at curves and intersections and application of brakes is done so as not to injure passengers, damage cargo, or cause cargo to fall. Material falling from vehicle during transportation is considered an accident requiring investigation.

(4). Windows of cab or car should always be opened slightly to prevent accumulation of carbon monoxide.

(5). Shut off engine before vehicle is serviced with fuel.

(6). When parking on grades, operators will rotate wheels to the extreme left or right, always in the direction of the curb. Emergency brakes will be utilized during all parking and loading of vehicles.

(7). Trucks being loaded or unloaded at docks must have the parking/emergency brakes set and wheels chocked, unless dock lock is used, to prevent movement.

(8). When passing another vehicle, allow a minimum of ten seconds to complete the maneuver. Always be prepared to take evasive action if necessary.

(9). Always yield the right-of-way to all movement in your area, whether another vehicle or person.

(10). Driving on ramps is restricted to those vehicles actually engaged in the operation or upon special request authorization by Director of Emergency Services and the Safety Office.

(11). Operators will not leave a vehicle unattended unless the engine has been stopped; parking/emergency brakes applied and placed in park position (automatic transmission).

NOTE

Diesel engines with standard transmissions should be placed in “neutral”. Do not back up unless necessary. Park the vehicle so that it can be driven forward when possible.

(12). The driver will not use his or her vehicle to push or pull a disabled vehicle. A tow vehicle will be summoned from the Transportation Service Branch (motor pool) of DPW.

(13). Proper signals must be made at least 100 feet in advance of making a left or right turn.

(14). Headlights are switched to low beam when within 500 feet of approaching vehicles and 300 feet when overtaking or following. Low beam lights must be displayed one-half hour after sunset to one-

half hour before sunrise and at any other time when there is not sufficient light to see at least 500 feet ahead. Driving with only parking lights on is prohibited. Also use headlights whenever the weather conditions require the use of the windshield wipers.

(15). Note the vehicle's behavior at all times. If any fault develops, stop and determine how serious it is. If it is of a minor nature, exercise the necessary caution to compensate for the deficiency and report it. If services are needed, report it immediately.

b. Operators transporting cargo:

(1). All cargo must be loaded for safe hauling. Operators of trucks will assure that the cargo they are hauling is loaded and secured properly. Cargo must be firmly immobilized or secured on or within the vehicle by structures of adequate strength, dunnage (loose materials used to support and protect cargo) or dunnage bags (inflatable bags intended to fill space between articles of cargo and the wall of the vehicle), shoring bars, tie-downs, or a combination of thereof. Only approved securement tie-down systems will be used to secure cargo on and in government vehicles and trailers. Tie-downs and load locks that are outfitted on the vehicle will be inspected immediately prior to each use. Racks or stakes on flatbed carriers will not be utilized in lieu of the preceding restraints. The truck must not be loaded beyond their maximum-rated capacity.

(2). Nylon tape may be used to secure individual materials to a pallet with a gross weight not to exceed 10 lbs or a group of items with the combined weight not to exceed 20 lbs.

(3). All drummed material, regardless of category or size, will be firmly secured via banding, straps, etc., to a pallet before loading and transporting intra-depot.

(4). Transportation of cargo over one pallet high will be secured both longitudinally and laterally. Loose boxes, empty pallets, etc., extending above the bulkhead must be properly secured.

(5). When an article of cargo is not blocked or positioned to prevent movement in the forward direction, the number of tie-downs needed depends on the length and weight of the articles. There must be:

(a). One tie-down for articles 5 ft or less in length, and 1,100 lbs or less in weight.

(b). Two tie-downs for articles 5 ft or less in length and more than 1,100 lbs in weight.

(c). Two tie-downs for articles greater than 5 ft but less than 10 ft, regardless of weight.

(d). For articles longer than 10 ft, two tie-downs for the first 10 ft, and one additional tie-down for every 10 ft, or fraction thereof, beyond the first 10 ft.

(6). If an article is blocked, braced, or immobilized to prevent movement in the forward direction by a header board, bulkhead, other articles that are adequately secured, or other appropriate means, it must be secured by at least one tie-down for every 10 ft of article length, or fraction thereof.

(7). All materials being transported on or off of LEAD that are hazardous, such as flammable liquids, combustibles, ammunition items, etc., will be placarded in accordance with:

(a). DA PAM 385-64, US Army Explosives Safety Program,

(b). AMC-R 385-100, AMC Safety Manual

(c). 49 CFR

c. Operators transporting personnel:

(1). Army motor vehicles equipped with seat belts cannot be operated until all occupants properly fasten and secure these devices.

(2). Personnel are not permitted to ride in the body of a truck containing:

(a). Ammunition.

(b). Unsecured roller conveyors, tools, or other material.

(3). No more passengers can be carried in the front seats than there are seat belts provided. Only two are permitted in the front seat of vehicles with floor mounted gear or drive mechanisms.

(4). The number of passengers transported in buses or converted cargo vehicles in “over-the-road” services must be limited to the designated seating capacity and installed seat belts will be used.

(5). Riding on loads or partial loads is prohibited.

(6). Personnel are not permitted to ride in trailers while the tractor is being connected or disconnected.

(7). Before starting vehicle, walk to the rear of the vehicle to assure that the tailgate, safety device, and/or safety strap are in place and that all passengers are seated.

(8). After stopping, walk to the rear of the vehicle, release safety devices and/or lower tailgate before passengers are permitted to dismount.

(9). Personnel dismounting from vehicle must be warned to move away from traveled portion of roadway.

(10). A motor vehicle cannot be moved when persons are in unsafe positions such as standing, attempting to ride between cab and body, hanging on the sides, running boards, fenders, or sitting on tailgate or sides of the truck.

d. Loading and unloading trucks and trailers with material handling equipment:

(1). All material handling equipment operators will:

(a). Ensure the wheels of the truck and/or trailer being loaded/unloaded are properly chocked. Verify that dock locking mechanism or chains are properly engaged or placed.

(b). Place a sign in the driver side windshield wiper of the truck which states information similar to, “DO NOT DRIVE YOU ARE BEING LOADED/UNLOADED.” The sign must be a minimum of 8-1/2” X 11”.

(c). Remove the “DO NOT DRIVE” sign and ensure the truck driver is notified that the loading/unloading process is complete.

(2). The material handling equipment operator is the only person authorized to install or remove the “DO NOT DRIVE” sign.

13-5. Protective Equipment. PPE and training will be required for all operators and riders of motorcycles/mopeds/motorbikes.

a. All privately owned motorcycles/mopeds/and motorbikes over 50cc must be currently licensed/registered by civil authorities.

b. Motorcycles and mopeds must have current inspection as required by the state it is registered.

c. Operators must wear as a minimum, the following PPE.

(1). DOT approved helmet.

(2). Eye protection (shatter-resistant glasses or face shield).

(3). Gloves.

(4). Long-legged pants.

(5). Long-sleeved shirts or jackets.

(6). Leather boots or over-the-ankle shoes.

d. While the Motorcycle Safety Foundation course is not required for civilian employees, it is highly recommended for all riders.

13-6. Mobile Equipment Operations.

a. This pertains to anyone who operates government owned mobile equipment including but not limited to tactical vehicles, construction vehicles, industrial vehicles, and GSA fleet vehicles.

b. Mobile equipment operation is critical to a wide range of jobs throughout LEAD. None of the information provided below is a change to Army or LEAD regulation. The information provided is intended to clarify existing DOT and Army requirements.

c. All government vehicle and equipment operators will be properly licensed in accordance with AR 600-55.

d. Tactical vehicles:

(1). Prior to operating any tactical vehicle, the operator will familiarize themselves with the operator level Technical Manual (TM).

(2). Ground guides are required when:

(a). The vehicle is being moved in or out of a building or structure.

(b). The vehicle is moved inside a building.

(c). The vehicle is being backed up, regardless of location.

(d). The vehicle is being operated in areas or around equipment where equipment damage or injury to personnel is likely.

(3). All tactical wheeled equipment will be equipped with a chock block in accordance with AR 385-10. The chock block will be placed under at least one of the vehicle's tires when the operator leaves the vehicle. Chock blocks are not required when the wheeled equipment is secured within a maintenance shop with jack stands, vehicle lift, or similar securing device. Reference Figure 13-1.

(4). Chocking of vehicle tires will be done on the basis of ground slope. If it is an unknown slope use two chocks, place a chock on both sides of the tire. If the slope is known place two chocks on two different tires. Reference Figure 13-1.

Figure 13-1. Wheel Chock Example.

e. Construction, Industrial, and GSA vehicles:

(1). Vehicles, when being parked, should be backed into a parking location to provide the driver better situational awareness during exit of the location. If a vehicle is pulled forward into a parking location, a ground guide is highly encouraged to assist the driver while reversing out of the parking location. The ground guide should remain with the vehicle until the operator has gained forward mobility. Extreme caution shall be used during any and all backing.

(2). Ground guides are required when the vehicle is being operated in an area or around equipment where equipment damage or injury to personnel is likely such as movement in and out of a building/structure or within small aisle ways within buildings.

f. Ground guides will follow the Army's standard ground guide hand and arm signals outlined in Training Circular (TC) 3-21.60.

g. All loads transported by government vehicles will be secured in accordance with applicable DOT and Army regulation. The following additional guidance has been provided to help clarify basic requirements.

(1). A secured load is defined as immobilizing equipment or material so that it is not separated from the transporting equipment unintentionally.

(2). All rolling stock equipment (equipment that can move on its own unexpectedly) will be secured with chains and binders in accordance with applicable technical manuals and DOT requirements.

(3). All non-rolling stock equipment will be secured in accordance with DOT and Army regulation.

(4). Wood or metal posts within stake bed trucks are not acceptable means for securing a load as they do not appropriately prevent the unintended loss of cargo. Only full gate interlocking stakes are acceptable for securing light loads on flatbed trucks. In addition, the following criteria must be met:

(a). The material being transported will not blow out of the vehicle.

(b). The material will not fall through the gaps in the gates.

(c). The total load's weight is not enough to bend the gate rails or cause them to fail.

h. Prior to the operation or any government vehicle, the operator will conduct a 360 degree walk around to ensure the vehicle is clear of equipment and personnel to avoid damage to equipment or injury to personnel. The vehicle operator will also glance under vehicles that are located within buildings or structures prior to movement to ensure equipment or personnel are clear of the vehicle prior to operation.

i. Vehicle operators performing tow operations will:

(1). Verify compatible connecting devices. When one vehicle is towing another vehicle, trailer or piece of equipment, the connection shall be of sufficient strength to pull all weight towed. Safety pins must be in place when towing with a pintle hook.

(2). Utilize Safety chains whenever towing a vehicle, trailer or piece of equipment when the equipment has the capability to be chained. When towing a trailer the safety chains shall be crossed and connected to the towed trailer and towing vehicle to prevent the tow bar from dropping to the ground in the event the tow bar fails or becomes disconnected. The safety chains shall have no more slack than is necessary to permit proper turning.

(3). Place a hazard triangle and yellow flashing light at the rear of the towed equipment regardless of the time of day when towed equipment has no functioning indicator lights, this applies to towing operations on any roadway. This requirement does not apply to towing being performed within a building or around a building apron.

Table 13-1. Stopping Distances.

HERE'S HOW FAST YOU CAN **STOP**……SAFELY

	20MPH	30MPH	40MPH
Dry Concrete	47 ft	88 ft	149 ft
	3 Car Lengths	6 Car Lengths	9 Car Lengths
Gravel	70 ft	135 ft	232 ft
	4 Car Lengths	8 Car Lengths	15 Car Lengths
Wet Pavement	78 ft	147 ft	252 ft
	5 Car Lengths	9 Car Lengths	16 Car Lengths
Packed Snow	105 ft	194 ft	336 ft
	7 Car Lengths	12 Car Lengths	21 Car Lengths
Ice or Sleet	235 ft	430 ft	745 ft
	15 Car Lengths	27 Car Lengths	47 Car Lengths

Table includes average reaction time distance.

Chapter 14

Safety Requirements for Fork Truck and Material Handling Equipment

14-1. Purpose. Prescribe policies, responsibilities, and safety standards to assist operators and their supervisors in the safe operation and use of Materials Handling Equipment (MHE).

14-2. General Information. Material moving on LEAD is essential to LEAD's mission. When material stops moving due to accidents, poor maintenance, or deadlined forklift, other work stops. That is why the material handling operator job is so important to LEAD's mission.

14-3. Definitions:

a. **Building:** Any reference to a building in this bulletin includes both the inside of the building and the outside building apron.

b. **Building Apron:** The space directly outside a building that is used to support the operations within a building and may include concrete, asphalt, or gravel surfaces.

c. **Forklift Attachment:** Any device connected to a forklift that is not a part of the original equipment manufacturer (OEM) design which alters the original design and purpose of the forklift.

d. **Forklift Operating Area:** Any area which a forklift has been assigned to operate for a given time period. An operating area may be a building, storage lot, or temporary work area which requires material movement. An operating area MAY NOT include multiple buildings or storage lots unless they are directly connected by building aprons or physical locations. Under no circumstances may the travel distance in an operating area or connected operating areas exceed those outlined in Chapter 14-6.

e. **Powered Industrial Truck:** Another term for a forklift.

14-4. Responsibilities.

a. Safety Office will:

(1). Certify each forklift attachment for use by applying a certification label to each forklift attachment and corresponding forklift. Forklift attachment drawings require Safety Office review and approval.

(2). Assist in ensuring compliance and communicating requirements of LEAD-R 385-1, OSHA regulations, and any other applicable documents and regulations.

(3). Review and approve all LEAD manufactured forklift attachments.

b. DPW Motor Pool will:

(1). Inspect all forklift attachments as part of the annual forklift inspection program and update the Inspection Due Date (IDD) for all attachments and forklifts. The inspection will include a review of the drawing to validate that no unapproved modifications have been made to the attachment.

(2). Communicate with forklift manufacturers to obtain approval for forklift attachment use when needed.

(3). Perform all maintenance on government owned forklifts or tractors.

(4). Maintain an inventory of all written responses from manufacturers pertaining to attachment and modification approval.

c. DOPS Production Engineering Division will:

(1). Design forklift attachments and obtain approval from a Qualified Professional Engineer when forklift attachments are not approved by a forklift manufacturer. The design of new forklift attachments will only be completed after full and complete market research on available attachments has been done and no other piece of equipment or device, other than a forklift, can be found to accomplish the same job.

d. LEAD equipment manager will:

(1). Assist the motor pool, production engineering, and supervisors in determining the availability of alternative equipment on the market to complete equipment and material movement that is either being moved by a forklift with an attachment or is being considered for movement by a forklift with a forklift attachment.

e. Supervisors will:

(1). Ensure that only Safety Office approved forklift attachments are being used in their respective work areas. Work with all applicable offices to reduce the number of forklifts being used to push and pull equipment on LEAD.

f. Operators of MHE will:

(1). Daily check the brakes, steering apparatus, hoisting mechanisms, and other controls. A check will be made of lights, horn, fan belt, windshield wiper, tire pressure, fire extinguisher, oil, air cleaner, and water for leaks before putting the equipment into routine use. Equipment found in unsafe condition will not be used until repaired. Complete trip ticket and notify supervisor.

(2). Not exceed the rated lifting capacity of the fork truck and towing capacity of the warehouse tractor.

(3). Take all proper emergency measures in case of fire, such as removing equipment to outside of building if safe to do so, and turn in fire alarm. All operators must be able to operate fire extinguishers.

(4). Ensure tractor does not have a load of such height on and trailing immediately behind as to obstruct the operator’s view when he or she looks back to observe the rest of the load. Reflectors or “Slow Moving” signs will be on the rear of the last trailer and visible to approaching traffic.

(5). Disconnect the battery plug from receptacle on electric forklifts during off-duty hours, except during recharging operation.

(6). Not have forks raised more than four inches when traveling, and the mast will be tilted rearward. When parked, the forks will be lowered to the floor or ground surface, engine will be stopped and brakes set when unattended.

(7). A powered industrial truck is left unattended when the operator is 25 feet or more away from the vehicle that remains in his or her view or whenever the operator leaves the vehicle and it is not in his view.

(8). No riders, lunch boxes, newspapers, extra clothing, non-essential items, etc., on fork trucks. A small cardboard box containing tape, placards, markers, band cutters, and like items essential to the absolute work function may be placed to the rear of the driver’s seat for warehouse personnel only. No one is allowed to ride the forks, load or other parts of truck. One rider is allowed to ride in the cab of warehouse tractors if proper provisions are made for their safety. Smoking is not permitted while operating or around parked MHE.

(9). Wear PPE at all times when operating MHE.

(10). Not push boxcar doors (rail operations) or any door open or closed with a forklift.

(11). Reduce speed upon crossing railroads or rough surfaces to prevent material from falling off and check to rear for stability of cargo. Fork truck operators should cross railroad tracks at an angle to reduce unnecessary shock to equipment and load.

(12). Chock the wheels of the vehicle when parking on a grade to prevent movement in event of brake failure.

(13). Inspect the floor of the freight car or trailer for weak spots. Cover the floor with steel plate before entering with the MHE as needed.

(14). Observe the five miles per hour maximum allowable speed for fork trucks and tractors in warehouses and shops.

(15). Insert the forks full length into the pallet or under a load before lifting.

(16). Not make turns with forks in an elevated position or while being elevated.

(17). Maintain a minimum of five-foot clearance between parked equipment and dunnage, boxes, crates, or other combustible material. Minimum clearance of ten feet to easily ignitable material such as loose combustible fibers in bales or crates will be maintained.

(18). Be responsible for neat and safe placement of pallets and other hauled material in bags, racks, stacks, etc., and for placement so as not to interfere with aisles, doors, exits, fire extinguishers, etc.

(19). Not assume pedestrians or other persons know of their whereabouts, but will sound the horn as a warning when operating in bays, aisles, blind spots, or outside areas.

(20). Slow down at all cross aisles and other passageways. When entering or leaving warehouse or shops, the operator will come to a complete stop at the doorway, sound horn, and proceed only when the way is clear.

(21). Secure extension forks to the package guard with safety chains unless some positive means of locking is provided.

(22). Always face in the direction he or she is traveling. If the load size obstructs the operator’s view, the fork truck will be driven in reverse.

(23). Ensure highway trucks are set with wheel chocks placed in front of or between the rear wheels to prevent rolling while being boarded with powered industrial trucks.

(24). Assure the usage of dock boards, portable ramps, bridge plates, etc., that anchoring via attached devices (i.e. chains) will be secured prior to boarding to prevent slippage. Any mentioned device with noticeable and/or known defects will be removed from service and identified immediately to the responsible supervisor.

(25). Use securing chains while connecting railroad cars to ramps, dock boards, or bridge plates to prevent movement while boarding.

(26). Prior to operating forklifts, examine the water level and add water if needed (do not overfill) using all personal protective clothing/devices as required. Failure to keep water at the proper level could result in injury to the operator or a reduced life expectancy of the battery.

(27). Use a forklift attachment only after being properly trained and licensed.

(28). Use forklift attachments within their rated capacity for lifting and towing.

(29). Discontinue use of any forklift or attachment if defects are noted including but not limited to, cracked welds, bent components, or missing pieces such as safety pins or chains.

(30). Prior to traversing forklifts in and out of buildings, operators will ensure overhead doors are raised to the highest point of operation. Failure to open overhead doors to its highest point could result in property damage or personal injury.

14-5. Training.

a. All MHE operators will be trained in the proper operation of MHE and any associated or applicable equipment attachments in accordance with AR 600-55 by the DPW Driver's Training Office. Training shall meet ANSI B56.1 chapter 4.19 minimum requirements and NFPA 505 chapter 9.7 and training shall include the following:

(1). Characteristics of the powered industrial truck(s), including variations between trucks in the workplace.

(2). Similarities to and differences from automobiles.

(3). Significance of nameplate data, including rated capacity, warnings, and the instructions affixed to the truck.

(4). Operating instructions and warnings in the operating manual for the truck, and instructions for inspection and maintenance to be performed by the operator.

(5). Type of motive power and its characteristics.

(6). Method of steering.

(7). Braking method and characteristics, with and without load.

(8). Visibility, with and without load, forward and reverse.

(9). Load handling capacity, weight and load center.

(10). Stability characteristics with and without load, with and without attachments.

(11). Controls: location, function, method of operation, identification of symbols.

(12). Load handling capabilities, forks, and attachments.

(13). Hazards due to production of carbon monoxide by internal combustion engines and common initial symptoms of exposure.

(14). Fueling and battery charging.

(15). Guards and protective devices for the specific type of truck.

(16). Other characteristics of the specific industrial truck.

(17). Operating environment and its effect on truck operation including, floor or ground condition including temporary conditions.

(18). Ramps and inclines, with and without load.

(19). Trailers, railcars, and dockboards (including the use of wheel chocks, jacks, and other securing devices)

(20). Fueling and battery charging facilities.

(21). The use of “classified” trucks in areas classified as hazardous due to risk of fire or explosion.

(22). Narrow aisles, doorways, overhead wires and piping, and other areas of limited clearance.

(23). Areas where the truck may be operated near other powered industrial trucks, other vehicles, or pedestrians.

(24). Use and capacity of elevators if applicable.

(25). Operation near edge of dock or edge of improved surface.

(26). Other special operating conditions and hazards that may be encountered.

(27). Operation of the powered industrial truck, including proper preshift inspection and approved method for removing from service a truck that is in need of repair.

(28). Load handling techniques: lifting, lowering, picking up, placing, tilting.

(29). Traveling, with and without loads, turning corners.

(30). Parking and shutdown procedures.

(31). Precautions for checking or filling tank.

(32). Action for suspected leak.

(33). Refueling instructions.

(34). Emergency items:

(a). Shutoff fuel valve

(b). Correct battery type and position

(c). Fire emergency procedures

(35). Hazardous location classifications and markings Industrial truck designations and markings.

14-6. Policy. All operators will be guided by the following:

a. The operator is responsible for keeping his or her equipment free of ice and snow, cleaning the windshield, keeping the inside of the cab and exterior body clean, and cleaning the battery terminals (using appropriate PPE) and engine.

b. Promptly clean any fuel spills.

c. Loads on tines of forklift: Must not exceed more than one-third of the height of the top tier of containers above the load backrest. Load will be centered on forks and will not extend beyond the tips of the forks for more than 12 inches.

d. Boxes of unfinished ammunition, when of sufficient length so as to be firmly supported on both forks, may be carried directly on the forks.

e. The operators of fork trucks and operators of warehouse tractors will keep feet well inside of equipment and hands back from hoisting mechanism and on steering apparatus.

f. Operators of warehouse tractor trains are responsible to see that fork truck operators place the load safely for traveling stability on the trailers; also, that the loads on their trailers are properly blocked and secured and do not extend unsafely beyond sides or end of trailers.

g. The operator will not remove flame arrestor (flash back screen in filler neck of gas tank) or allow anyone else to remove it to hasten the filling service.

h. Only licensed personnel will operate fork trucks and warehouse tractors, not to exceed the limit as documented on their licenses.

i. Safeguard pedestrians, ensure that you never drive up to or at someone that is standing in front of an object, ensure that turn radius is clear prior to maneuvering the MHE.

j. No mechanical adjustments will be made by the operator to his or her equipment except to tighten bolts, nuts, and cap screws on brackets, fenders, frames, protection bars, coupling devices, etc., that may have come loose during operation. Known or suspected defects will be called to the attention of the supervisor.

k. Operators of fork trucks and warehouse tractors are subject to all LEAD traffic regulations and a warning triangle will be displayed on the rear of the vehicle when operating on LEAD roads.

l. A gasoline or diesel driven machine will not be left running or operated in a building unless the building is properly ventilated.

m. Fork trucks will be driven forward when transporting cargo up ramps and reverse when driven down grade.

n. MHE will not be turned around while on an incline or ramp.

o. For single operations, e.g., unloading one boxcar involving more than one fork truck, they will be 20 feet apart unless two fork trucks are transporting the same load.

p. Allowing anyone to stand on the rear or adding weight to counterbalance a fork truck to pick up weight beyond rated capacity of equipment is prohibited.

q. No one will be raised on a fork truck to check, place, pick stock, or perform any other work. No one will climb upon a raised, flat pallet to check, place, pick stock, etc.

r. No cover for weather that interferes with side or vertical visibility of the operator will be permitted on fork trucks.

s. MHE will not be serviced with gasoline or other fuel inside buildings but will be moved 20 feet from inert locations and 90 feet from explosive locations.

t. Equipment will not be backed until rear clearance is checked and checking of clearance will continue all during such movement. Operator must face direction of travel.

u. Pushing combat vehicle (tank) hulls or any other type of material or equipment with a fork truck is prohibited unless a specially fabricated device has been designed in accordance with 14-4 c (1).

v. Lifting material, not resting on the top of the forks, is prohibited unless a device is fabricated into which both forks are inserted or otherwise suspended, unless a specially fabricated device has been designed in accordance with 14-4 c (1).

w. All forklifts assigned to a forklift operating area will only transport material by either lifting or towing in the assigned forklift operating area. Forklifts will not be permitted to carry or tow material or equipment from one operating area to another unless they meet the definition of a forklift operating area above.

x. EMPTY FORKLIFTS with a lifting capacity of:

(1). Less than 12,000 pounds are permitted to travel between operating areas as long as the operating areas are less than 2,500 feet apart and the forklift is equipped with a triangle warning sign on the back of the forklift.

(2). 12,000 pounds or more are permitted to travel between operating areas up to 3 miles apart accept those outlined in paragraph bb below.

(3). 12,000 pounds or more with multispeed transmissions will not be limited on travel distances while on LEAD.

y. Any forklift that requires movement between forklift operating areas that exceeds the above distances will be transported by the DPW Motor Pool.

z. In the event that the manufacturer is unavailable for approval of the forklift attachment or in situations where a decision is needed quickly, the use of the forklift attachment will be approved by the Safety Office and a qualified engineer.

aa. Each forklift attachment will be assigned to a specific forklift. Forklift attachments will not be approved for use on other forklifts unless the Safety Office approves its use in writing and applies the appropriate certification label. This is required even if the alternate forklift is the same size and brand.

(1). The forklift that is assigned an attachment and the forklift attachment itself will be labeled with the forklift and forklift attachment bar code, the lifting capacity of the forklift with the attachment, and the towing capacity of the attachment if designed for towing. The forklift attachment WILL NOT be used if either the label on the forklift or the label on the forklift attachment are illegible.

(2). Forklift attachments will be sent to the motor pool along with their corresponding assigned forklift for all maintenance. FEMS will be the system of record for tracking all forklift and forklift attachment maintenance.

(3). While barrel handlers are considered forklift attachments, they are special and unique. As result, barrel handlers will:

(a). Be inspected prior to use. If defects are noted it will be removed from service.

(b). Not be assigned to a specific forklift.

(c). Be labeled with the lifting capacity by stenciling or some other obvious method.

(d). Tracked in FEMS for maintenance.

(e). Not be labeled by Safety.

bb. The goal of every organization should be to limit forklift use for pushing and pulling. While forklifts are ideal for many situations, other material handling equipment is available to assist in pushing and pulling items on LEAD. Consult an engineer, LEAD equipment manager, or DPW motor for investigating alternatives.

cc. Special case: Due to the unique nature of the PATRIOT missile system and it associated 5th wheel trailers, the Theater Missile Systems Division will be permitted to transport 5th wheel trailers equipped with a 3-1/4” pin by forklift and 5th wheel attachment between buildings 350 and 370 as well as any location in between, such as building 351. Travel of these trailers to and from other locations such as building 320, the upper test sight, or dock 2 will be completed by a prime mover such as a HEMMT or Jockey Truck. Please note that this is a temporary special case and will be terminated once alternative means of trailer transport become available.

dd. Forklifts shall be operated at a speed safe for the conditions and load being transported. While forklift speeds are difficult to determine as they are not equipped with speedometers, forklift speeds inside of building shall not be faster than a brisk walking pace.

Chapter 15

Crane Safety

15-1. Purpose. Provide operational guidance and minimum requirements to ensure safe crane operations.

15-2. General.

a. Cranes will be operated only by authorized operators where the Health Clinic or certified medical personnel have certified physical fitness for the job.

b. No crane will be loaded beyond the rated capacity, except for test purposes.

c. Cranes that have not been in use for more than one month, but less than six months, will not be used unless an inspection is made of the controls, hydraulic, mechanical running gear, electrical gear, and hooks. If the crane has been idle for more than six months, a complete inspection of all systems must be made before placing the crane into service.

d. A plate or stencil showing the maximum lifting capacity in pounds will be posted in operator's vision area. If equipped with outriggers, it will show the maximum capacity with and without outriggers.

e. An approved rope ladder or other suitable device shall be provided for the escape of the operator in an emergency.

f. Inspections will be accomplished on critical systems such as brakes, hooks, and ropes monthly. Written records of the inspections will be maintained and will be readily available.

g. Directional markings (e.g., north, south, east, west or forward, reverse, left, and right) shall be provided on the equipment or facility. These markings shall be legible to the operator and consistent with the direction of movement markings on the controllers.

15-3. Responsibilities.

a. Crane operators will ensure:

(1). The safe operation of the crane.

(2). Ends of sling are hooked to the block hook or sling ring before moving crane on which an empty sling is hanging. Slings and block will not be left at a height that vehicles or employees' can accidentally strike them.

(3). Signals will not be taken from more than one hook-up ground person.

(4). Crane will only be moved when the floor signals are fully understood.

(5). Unsafe or improperly hooked load will not be lifted; you have the authority to require a proper hook-up or safe load before movement.

(6). All loads will safely clear adjacent material, vehicles, bins, buildings, etc., by the operator.

(7). Loads are carried close to the floor or ground. To clear obstacles, raise the load over the obstacle attaining proper clearance. When obstacle is cleared, reposition the load close to the floor or ground.

(8). When manufacturer's safe workload radius without outriggers will be exceeded, outriggers or rail clamps will be used.

(9). Loads will not be lifted unless the crane is on level terrain or outriggers are used to level the crane.

(10). The crane boom will be carried in line with the direction of motion when traveling. The empty hook will be lashed or otherwise restrained to prevent free swinging.

(11). Operators do not leave their position at the controls while the load is suspended.

15-4. Rules.

a. At the start of duty, the operator discovers the main or emergency switch open. The switch will not be closed until all personnel are clear of the immediate operational area.

b. Defective equipment such as cables, chains, slings, hooks, etc., will be removed from service immediately.

c. Traveling cranes will be equipped with a signal-warning device to be sounded intermittently while the crane is in motion.

d. Loads being placed on the ground or floor will be adequately blocked for easy removal of the lifting devices.

e. Personnel riding loads, hooks, bucket, bridges, etc., are prohibited.

f. A technician will never, under any conditions, go upon a crane or runway without notifying the operator. Scaffolding will not be placed in position of a crane path of travel before the operator shutting down and locking out the electric system.

g. Loads will never be left suspended. They will be lowered to the ground or floor.

h. Extensions will not be affixed to the end of the booms unless the manufacturer of the equipment on which they are to be used specifically designs them.

i. Operators must not climb to and from the cab of an overhead crane except by the access provided.

j. Moveable equipment that must operate within 20 feet of energized lines must have the frame of the equipment adequately grounded.

k. The hoist will always be directly above load. Angle pulling is prohibited.

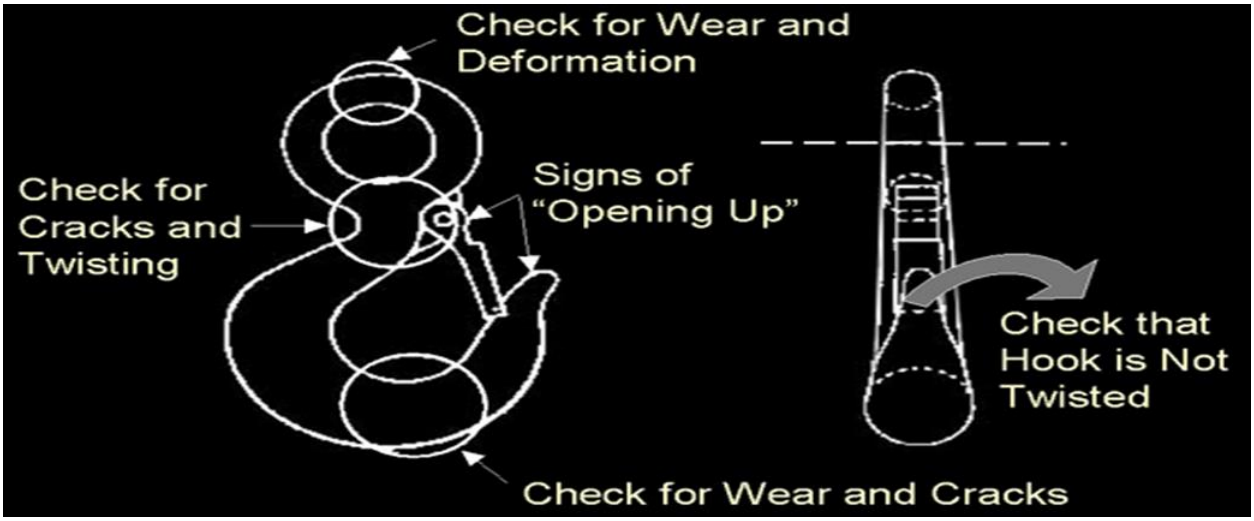
l. Neither the load nor the boom will be lowered below the point where less than two full wraps of rope remain on the drums.

15-5. Procedural Requirements for Operators:

a. Crane will be inspected and tested for defects at the beginning of each shift or the first time the crane is used that day. Results of daily and periodic checks will be annotated on an AMLD Form 4615-2. The brakes will be tested by placing the controller in "OFF" position after a load has been lifted a few inches. If the brake does not hold, report it to your supervisor and do not use until proper adjustment is made.

b. Hooks will be inspected for the following:

Figure 15-1. Crane Hook Inspection Points.



c. If the crane fails to operate correctly, cease operations and notify the supervisor. Further operation will not be attempted until the defect is repaired by an authorized crane repair person.

d. Loads will not be carried over or close to personnel. Truck-mounted cranes will not lift load over the front area except as approved by the manufacturer.

e. Before leaving the crane unattended, open the main switch, turn off the magnet hook and secure the crane against movement.

f. Cranes will not be operated closer than 10 feet from any overhead high voltage line, unless power has been shut off and positive action taken to prevent energizing. A notice of the 10-foot limitation must be posted at the operator's position.

g. A load will never be picked up when the weight supported by the crane chassis rests on springs over the axles. All loads will be taken off the springs of the vehicle by means of built-in jacks or outriggers.

15-6. Rules, Procedures, and Standard Hand Signals for Ground Persons:

a. Check all slings, hooks, spreader bars, etc., for defects before and during use. Slings having kinks or knots will not be used.

b. When hooking up load that requires sharp bends of the sling, suitable corner pads of rounded wood, heavy bagging, or old rubber tires will be used.

c. Tagline or guide ropes will be used to guide a load that is liable to swing while being hoisted into place.

d. Bolts will not be used to shorten a chain for handling a load; chains will not be tied into a knot to shorten the length.

e. Balance the load as close as possible, changing hook-up to as necessary to accomplish such balance.

f. Set the load in the bowl of the hook, never on the point unless the hook has been specially designed for such use.

g. Before giving any operation signal, make sure the load is safe and all personnel are clear of any movement of the load.

h. Walk ahead of the moving load. See that it is carried high enough to clear all obstruction and clear others from the path of movement.

i. Never walk under a load for any reason or permit others to do so.

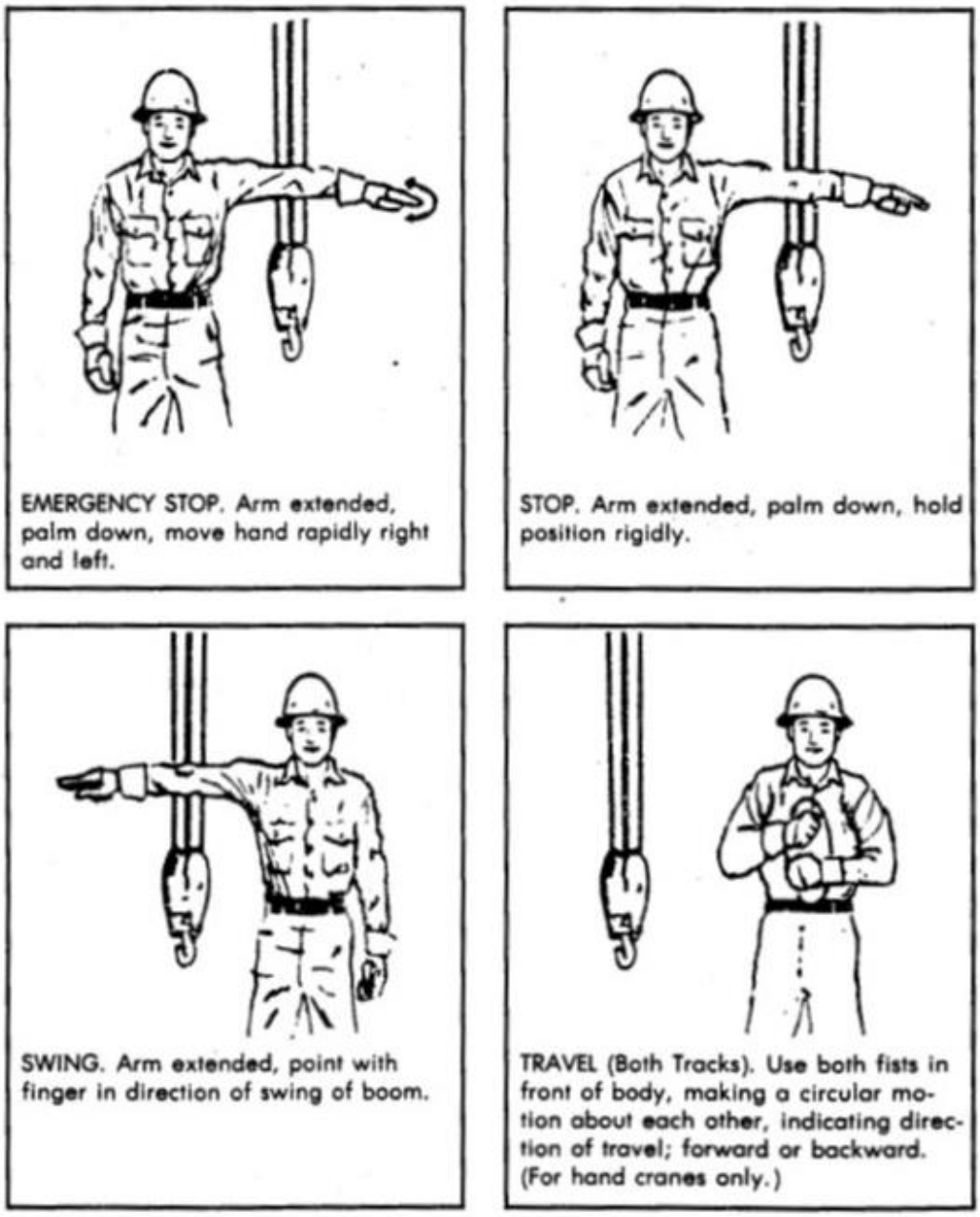
j. Check the weight of the load against the capacity of the crane. Do not exceed the crane capacity.

k. Only slings, chains, bars, etc., properly tested and tagged by Property Accountability and Equipment Maintenance Division will be used. Improvising slings is prohibited.

l. Signalman will stand where he or she can be clearly seen by the operator and use only the standard signals.

m. Any time it becomes necessary to give instructions to the operator other than standard signals, signal the crane operator to stop, and then give the instructions.

Figure 15-2. Arm Signals, Part One.



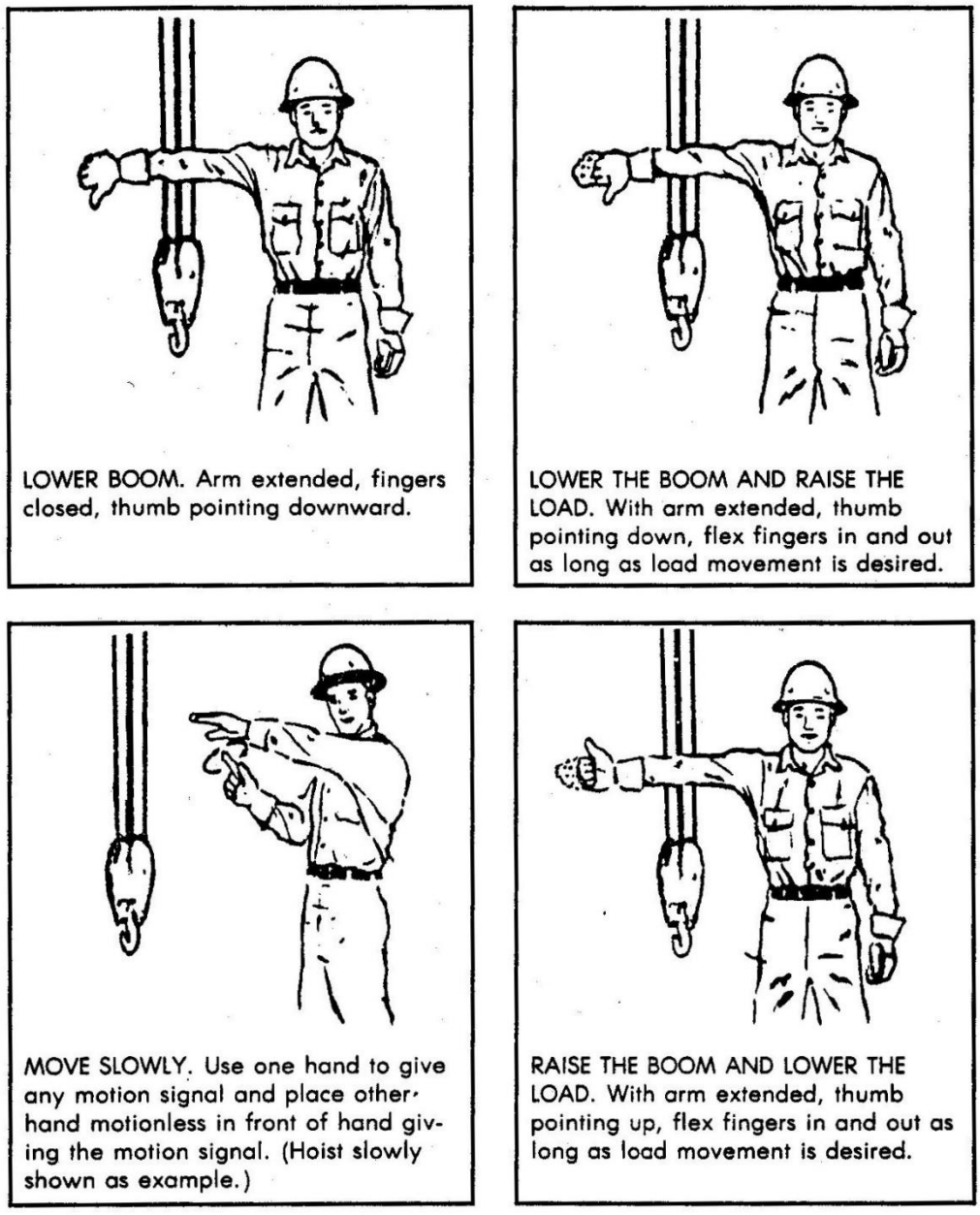
EMERGENCY STOP: Arm extended, palm down, move hand rapidly right and left.

STOP: Arm extended, palm down, hold position rigidly.

SWING: Arm extended, point with finger in direction of boom swing.

TRAVEL (Both Tracks): Use both fists in front of body making a circular motion about each other, indicating direction of travel; forward or backward. (For hand cranes only.)

Figure 15-3. Arm Signals, Part Two.



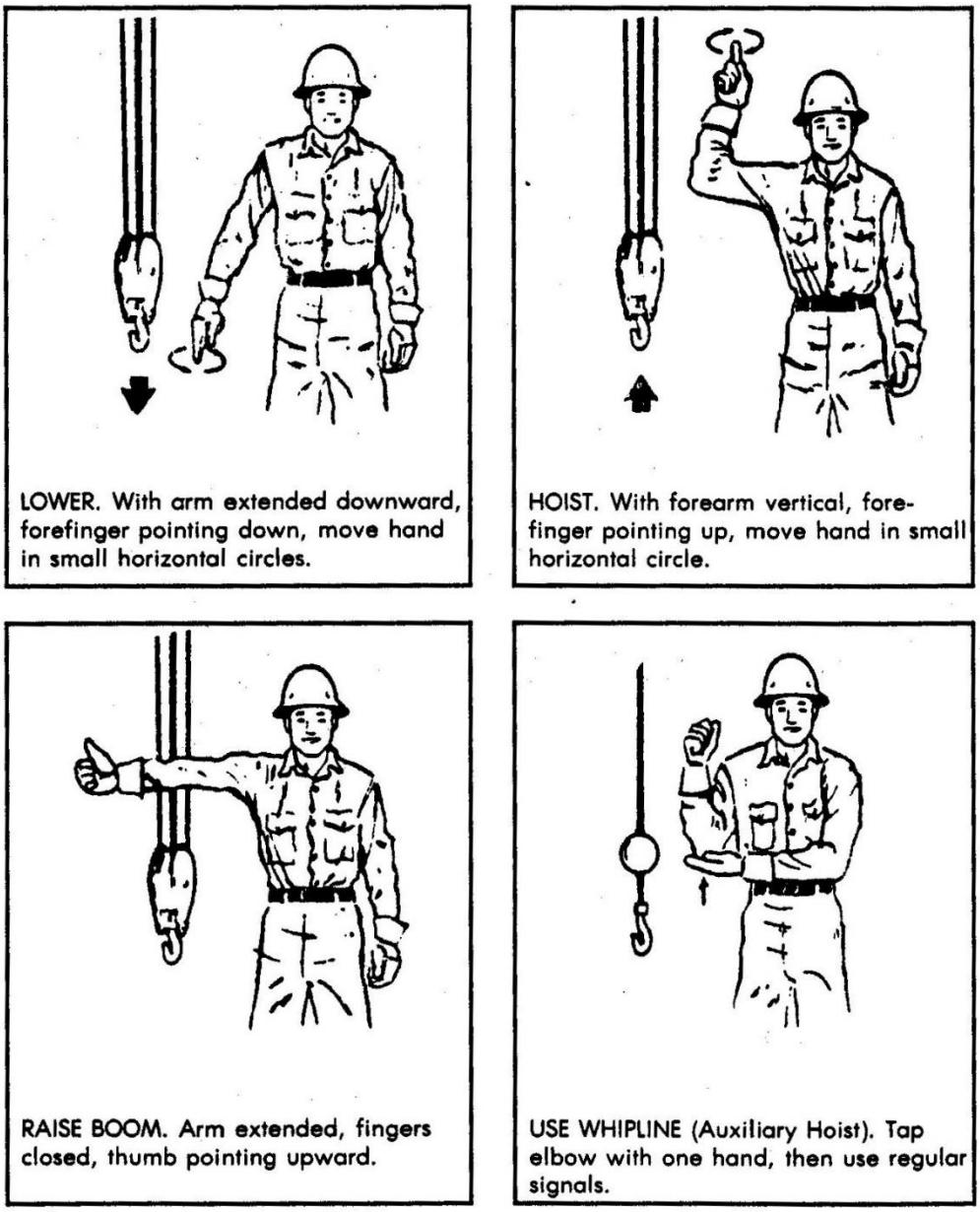
LOWER BOOM: Arm extended, fingers closed, thumb pointing downward.

LOWER THE BOOM AND RAISE THE LOAD: With arm extended, thumb pointing down; flex fingers in and out as long as load movement is desired.

MOVE SLOWLY: Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example).

RAISE THE BOOM AND LOWER THE LOAD: With arm extended, thumb pointing up; flex fingers in and out as long as load movement is desired.

Figure 15-4. Arm Signals, Part Three.



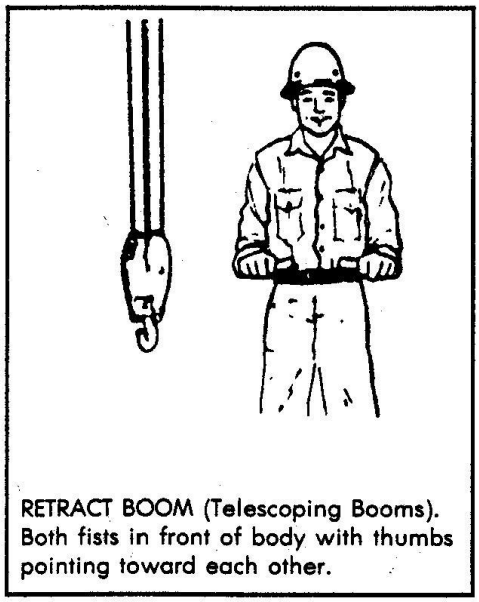
LOWER: With arm extended downward, forefinger pointing down, move hand in small horizontal circles.

HOIST: With forearm vertical, forefinger pointing up, move hand in small horizontal circle.

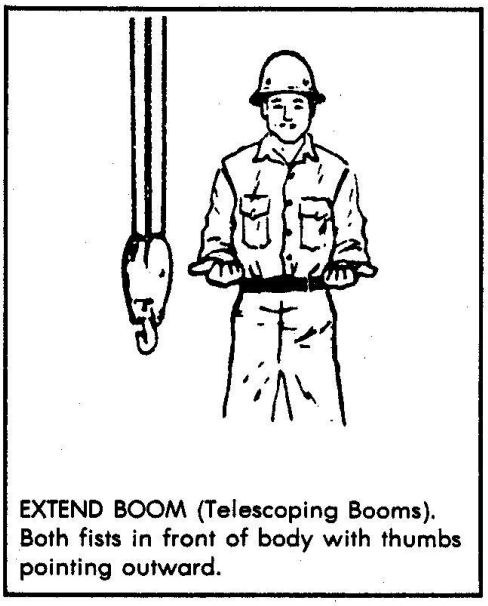
RAISE BOOM: Arm extended, fingers closed, thumb pointing upward.

USE WHIPLINE (Auxiliary Hoist): Tap elbow with one hand, and then use regular signals.

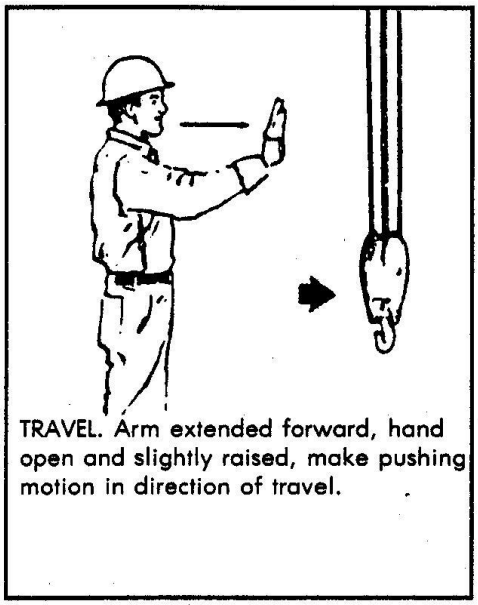
Figure 15-5. Arm Signals, Part Four.



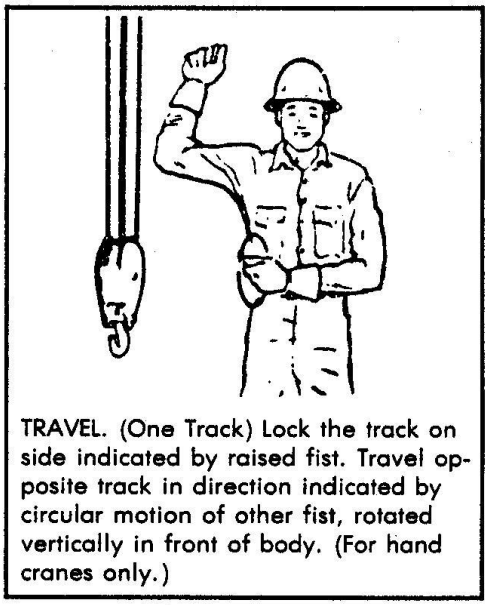
RETRACT BOOM (Telescoping Booms). Both fists in front of body with thumbs pointing toward each other.



EXTEND BOOM (Telescoping Booms). Both fists in front of body with thumbs pointing outward.



TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.



TRAVEL. (One Track) Lock the track on side indicated by raised fist. Travel opposite track in direction indicated by circular motion of other fist, rotated vertically in front of body. (For hand cranes only.)

RETRACT BOOM (Telescoping Booms): Both fists in front of body with thumbs pointing toward each other.

EXTEND BOOM (Telescoping Booms): Both fists in front of body with thumbs pointing outward.

TRAVEL: Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.

TRAVEL (One Track): Lock the track on side indicated by raised fist. Travel opposite track in direction indicated by circular motion of other fist, rotated vertically in front of body (for hand cranes only).

Figure 15-6. Crane Identification.

OVERHEAD CRANE

JIB CRANE

GANTRY CRANE

LOADER CRANE

ROUGH TERRAIN CRANE

TELESCOPIC CRANE

MOBILE CRANE

TRUCK OPERATED CRANE

Chapter 16

Inspection, Testing, Fabrication, and Maintenance of Lifting Devices

16-1. Purpose. Prescribes policies, responsibilities, and minimum procedures to be used in the inspection, load testing, fabrication and maintenance of lifting devices. Those devices used for handling ammunition, and weapons systems may have additional specific test instructions and requirements that must be followed.

16-2. Scope. These procedures apply to all directorates and offices using devices authorized at LEAD with the exception of fire and emergency services operations. All rescue equipment utilized by the Fire and Emergency Services will meet the NFPA standards and is exempt.

16-3. Definitions. For the purpose of these procedures, the following definitions apply:

a. **Administrative hold:** The process of placing a lifting device in an inactive status. This does not include the turning in of tool crib issued lifting devices or lifting devices that are secured in employee tool boxes.

b. **Carts:** Hand pushed devices used to move items from one location to another.

(1). Commercial off the shelf utility carts, test equipment carts, and carts, used to transport small or lightweight items under 500 pounds and lower than 48” above ground, are not considered lifting devices and are exempt.

(2). Adjustable carts are devices that can be used to raise, lower or position components and will be subject to an initial and annual inspection by the inspecting activity. Adjustable carts that are used to handle explosive devices will undergo an initial and annual load test using normal working load(s).

c. **Commercial off the shelf lifting devices:** Devices that have been designed, tested, and sold on the open market. Commercial off the shelf lifting devices that have been modified shall be treated as engineered lifting devices.

d. **Cribbing:** The use of wood for the purposes of supporting a load at an elevated height or being used to secure a load from movement.

e. **Engineered lifting device:** A device that has been designed by an appropriately qualified engineer for the purpose of conducting a lift. This includes devices that have been custom made for LEAD by a commercial vender. Engineered lifting devices shall conform to the requirements of this chapter.

f. **Forklift attachments:** Devices that affect the forklift’s capacity or safe operation. See Chapter 14 for additional information on forklift attachments.

g. **Inspecting Activity:** A team or group that is responsible for completing and documenting annual inspections, maintenance, and load testing of lifting devices.

(1). DPW – Directorate of Public Works Motor Pool

(2). IEM – Industrial Equipment Maintenance

(3). ASRS Maintenance – Automated Supply Retrieval System Maintenance

h. **Lifting Devices:** Any device or component used to raise, lower, hold, or position a load from one location or elevation to another. Examples of lifting devices include forklift trucks, forklift attachments, cranes, manual and motorized pallet jacks, hoists, wreckers, A frames, slings, ropes, wire ropes, hooks, oblong rings, pear rings, spreader bars or lifting clamps, beams, jacks, safety stands, and jacks stands.

i. **Load Rating:** The maximum authorized load that may be lifted. The load rating may be less than or equal to, but will not exceed the manufacturer’s rated load. For fixtures, the smallest manufacturer’s rated load component will equal the fixtures rated load.

j. **Manufacturer's Rated Load:** The maximum load that a piece of equipment and /or its accessories are allowed to lift; based on the equipment's capacity data plate or other guidance from the manufacturer or engineered drawings.

k. **Miscellaneous intuitively identified devices:** Under the hook lifting devices that are used in conjunction with an under the hook lift that are simple in design and construction such as lifting shackles, lifting hooks, ovals, pear eyes etc. These devices will be clearly market with a Working Load Limit (WLL).

l. **Property Identification Number:** A control number used to account for property.

m. **Retrofits or Modification Work Orders (MWOs):** Publications or directives authorizing rework or modification.

n. **Rigging:** The activity of identifying and selecting one or more lifting devices with pre-determined lifting limits to conduct a lift. Rigging a load for a lift is not considered an engineered device and may be conducted by an appropriately trained and qualified employee.

o. **Stands:** Any device, mobile or stationary, used to elevate or support material for convenience of working that is bought, fabricated, or is unique to the mission including sawhorses, trestles, Antenna Mast Group (AMG) stands, launcher stands, etc.

(1). Portable trestles, sawhorses and stands with no movable parts and with weight capacities under 500 pounds and a working load below 48 inches will be labeled with rated load. Only a visual inspection before use is required. If any of these devices are locally fabricated, an approved-engineered drawing and initial load test is required. No documented annual inspection is required. Portable trestles, sawhorses, and stands with movable parts, weight capacities over 500 pounds and a working load 48 inches or higher will conform to the requirements of a lifting, suspending and positioning device in table 16-1.

(2). Special purpose stands; such as AMG and launcher stands will be inspected annually and tracked in the system of record.

(3). Office furniture, computer stands, tables, etc., are exempt from initial load testing and labeling requirements.

p. **Supervisor or competent person other than the user:** (Applies to under the hook lifting devices only issued by the tool crib only). Reference paragraph 16-4 d (4).

q. **System of record:** An electronic system used to track inspections and maintenance completed by an inspecting activity.

(1). FEMS – Facility Equipment Maintenance System

(2). LMP – Logistics Modernization Program

(3). ATICTS – Automated Tool Inventory Control and Tracking System

r. **Trailers:** Classified as devices used to move items from one location to another that uses a powered piece of equipment to accomplish the task.

16-4. Responsibilities.

a. The Safety Office will:

(1). Manage the requirements of this chapter to ensure compliance with its contents.

(2). Review and approve drawings for lifting devices.

(3). Assist inspecting activities and production engineering in the establishment of load testing procedures.

b. Directors will ensure conformance to the requirements of this regulation.

c. The Directorate of Supply and Transportation will maintain an equipment management policy that:

(1). Governs the accountability of LEAD tools and equipment which includes lifting devices.

(2). Establishes turn in requirements for idle unused equipment. It is understood that requirements will be different for fixed property like overhead cranes and mobile property like vehicle lifts.

(3). Manages the assignment of property to a system of record for accountability and maintenance. It is understood that these system may be different.

d. Supervisors will:

(1). Ensure an AMLD Form 4615 and/or DD 314 form is assigned for all lifting devices within their cost center in accordance with this chapter. A new AMLD Form 4615 and/or DD Form 314 will be provided each time a lifting device is issued and at the beginning of every calendar year.

(2). Ensure inspections and maintenance are conducted in accordance with this chapter.

(3). Oversee operations involving lifting devices and ensure employees are properly trained in their use, inspection, and care.

(4). Inspect or appoint a competent person, other than the employee signed for the device, to inspect lifting devices assigned by the tool crib at least annually.

(5). Remove from service all lifting devices with pass due Inspection Due Dates (IDD), devices that have delinquent or pass due inspections or maintenance, and devices failing to satisfactorily pass inspection. Devices that are reported to the supervisor by the inspecting activity that could not be located will be recorded in the Hazard Reporting Process by the supervisor immediately upon receipt of the notification.

(6). Maintain accountability of all lifting devices within their area of responsibility in accordance with the DS&T Equipment Management Program.

e. Employees using lifting devices will:

(1). Only use devices that they have been trained to use and inspect.

(2). Inspect all lifting devices prior to use.

(3). Remove from service any device found to be defective or faulty.

f. Production Engineering Division, DOPS, is responsible for:

(1). Preparation of engineered drawings for all locally fabricated lifting devices. All drawings will be forwarded to the Safety Office for approval. Designs and drawings shall be in accordance with applicable standards such as TB 43-0142 and ANSI standards. All locally engineered device,

including modified commercial of the shelf items, will include the requirements outlined in paragraph 16- 5 a.

(2). Development of technical methods and standards (with the assistance from the Safety Office) for load testing of lifting devices that require a test.

g. Inspecting activities will:

(1). Conduct load tests in accordance with TB 43-0142, Safety Inspection and Testing of Lifting Devices, and any other applicable standard.

(2). Perform initial load tests on lifting devices requiring test.

(3). Ensure lifting devices are labeled and maintained in accordance with this policy.

(4). Ensure that preventive maintenance services, inspections, and load testing, when applicable, of lifting devices are scheduled and performed in accordance with applicable technical publications. Historical records, including signed and dated actions performed will be maintained in the system of record.

(5). Update the next periodic inspection on lifting devices by updating the Inspection Due Date (IDD) on the lifting device in accordance with Chart 16-1 and paragraph.

(6). Mark lifting devices in accordance with Chart 16-1 and paragraph 16-5 g.

(7). Notify the appropriate operating activity when a lifting device fails to satisfactorily pass inspection, load test or when the cost of repair exceeds the established maintenance expenditure limits.

(8). Notify the owner (Hand receipt holder or employee signed for the device) of the lifting device and the Safety Office that the device could not be located for its annual inspection to be completed. The notification will state that the use of the device shall be discontinued until the inspection and maintenance is completed and updated into the appropriate system of record.

16-5. Policy.

a. Locally manufactured lifting devices, equipment, and carts require an approved engineering drawing. All LEAD engineering drawings will be reviewed by an appropriately qualified LEAD engineer and have the following minimum requirements. The device, equipment, or cart capacity, load test requirements, periodic maintenance requirements, and appropriate references to consensus standards such as ASTM, ANSI. They will also receive an initial load test by the inspecting activity and all lifting devices will be load tested upon repair, alteration or replacement of any part.

b. Under no circumstances shall a shop or organization built or manufacture a lifting device without complying with the requirements of this chapter.

c. Hooks that exceed more than 15 percent of the normal throat opening or are twisted 10 percent or more out of place will be removed from service. Hooks on hoists must have safety closure latches properly positioned and functional except when the use of a hook with a safety closure latch creates additional hazards in operation. Swivel type hooks should rotate freely. Repair of hooks is not authorized.

d. Cranes and lifting devices that have been involved in an accident, including dropped loads or striking of objects during movement, will be removed from service until inspected by the appropriate inspecting activity.

e. Annual load tests are required for lifting devices used for handling ammunition and explosives. Load tests will be completed by the inspecting activity and be documented in the appropriate system of record.

f. Annual inspections of devices that handle hazardous materials such as acids, strong caustics, flammable and toxic materials will receive a function test. A function test is defined as a full operational inspection in accordance with the manufacture's recommendations or as identified on the applicable drawing and a load

test of the device using the heaviest weight that the device would handle. The following devices shall comply with the requirement. The below devices are not required to be labeled with a Load Test (L/T) date.

(1). Drum handlers

(2). Side grip drum lifters

(3). All forklifts 15K under

g. Load testing procedures will be completed in accordance with TB 43-0142 and/or applicable consensus standards. In the absence of clear guidance from the aforementioned standards, a device shall be load tested at 100% load for 5 minutes.

h. All lifting devices will be are marked either by stamping, stenciling, tagging, or other appropriate means. The lifting device shall be marked in accordance with Chart 16-1. Marking may include some or all of the elements.

(1). Property identification number. If a lifting device cannot be loaded to and accountable record, the inspecting activity shall assign a tracking number to the device and load it into the appropriate system of record to track inspections and maintenance.

NOTE

All LEAD processes shall conform to the LEAD's property accountability requirements. If an item is not on accountable record, contact the LEAD Property Book Office.

(2). Load rating/load capacity

(3). Next Inspection Due Date (IDD). Not to exceed one year.

(4). Engineering drawing number if manufactured at LEAD.

(5). Gantry cranes will be stenciled on the boom with the rated capacity. The stencil will be of sufficient size and will be located so it is clearly visible from the operator's location.

(6). Forklift trucks, wreckers, mobile cranes, and other mobile engine powered lifting devices will be stenciled in a conspicuous location with the rated capacity and IDD of next periodic inspection.

NOTE

Under no circumstances will these markings be painted over or removed, except for maintenance or retest by the appropriate inspecting activity, at which time the item will be retagged or re-stenciled.

(7). Lifting devices that have been placed on an administrative hold for one year or more will be functionally tested at 100 percent of the rated load before use.

i. The load rating and manufacturer's data/plate shall not painted or obliterated. If this data is unreadable, remove the device from service and contact the manufacture or Production Engineering Division to obtain correct data.

j. Homemade or LEAD manufactured devices that do not meet the requirements of paragraph 16-5 a. will be considered Found On Installation (FOI) items and will be processed in accordance with Chart 16-2.

k. Idle and unused equipment shall be inspected and maintained in accordance with this chapter so long as the devices are issued to the end user. Only after items have been placed in an administrative hold status, in accordance with the LEAD Equipment Management Program, can device maintenance and inspections

be placed on hold. Any device returning to service after an administrative hold shall be thoroughly inspected by the inspecting activity.

l. Cranes shall be inspected at least monthly. Cranes that are idle for 6 months or more shall be removed from service (locked and tagged out). A thorough inspection and load test shall be completed by the inspecting activity by to returning a crane to active service.

m. Under the hook lifting devices that are simple in design and intuitively identified with a Working Load Limit (WLL) such as lifting shackles and pear eyes, shall be exempt from the property accountability and DD Form 314 requirements of this chapter. These devices will be inspected prior to use and removed from service if damaged, modified, or the marking are illegible.

n. Low rise manual pallet jacks with a maximum lifting height of 8 inches (measured to the top of the pallet jack deck) shall be exempt from the annual inspection requirements by the inspecting activity.

o. The AMLD Form 4615 series was established to provide operators with a checklist for commonly used lifting devices. When a AMLD Form 4615 is not available for a device, DD Form 314 shall be used. The following AMLD Form 4615s are available as of the date of this regulation.

(1). AMLD Form 4615 Ladders and Platforms Equipment Pre-Operational Checklist

(2). AMLD Form 4615-1 Personal Fall Protection Equipment Pre-Operational Checklist

(3). AMLD Form 4615-2 Overhead Crane Equipment Pre-Operational Checklist

(4). AMLD Form 4615-3 Slings and Spreader Bars Equipment Pre-Operational Checklist

(5). AMLD Form 4615-4 Drum Transporter Equipment Pre-Operational Checklist

(6). AMLD Form 4615-5 Floor and Bottle Jack Equipment Pre-Operational Checklist

(7). AMLD Form 4615-6 Patriot/AMG/Jack Stands Equipment Pre-Operational Checklist

(8). AMLD Form 4615-7 Emergency Eye Wash Station Equipment Pre-Operational Checklist

(9). AMLD Form 4615-8 Respiratory Protection Equipment Pre-Operational Checklist

p. All exempted miscellaneous lifting devices shall be inspected annually by a competent person. This visual inspection will assess the overall condition of the devices to determine if they are in adequate condition for continued safe use. Any device identified as being deficient shall be removed from service. Hooks used to suspend parts for painting purposes, commonly known as “S” hooks, shall be inspected prior to every use. Defective, bent, or modified “S” hooks will be removed from service. “S” hooks are exempt from an annual inspection by an inspecting activity.

q. Lifting devices that are commercial off the shelf are exempt from initial load testing by LEAD unless they manage ammunition, explosives, acids, strong caustics, flammable and toxic materials, or have been modified by lead or extensively repaired. Extensively repaired is defined as the repair or replacement of any major load bearing component.

r. Artisans utilizing a single piece of wood at one or more locations to support or manage a load for the purpose of cribbing shall exercise good judgement when selecting the number pieces of wood and their placement. When more than a single piece of wood is required to gain elevation, an appropriately qualified engineer will be contacted to obtain support for complying with the requirements of paragraph 16-5 a.

Chart 16-1. Equipment Marking and Inspection Specifications.

Device	Labeling Marking	Required Forms: Completion interval	Inspecting Activity Inspection
Stationary cranes and under the hook lifting devices			
Stationary and mobile (A-Frame) gantry cranes	Note 1	AMLD Form 4615-2:Prior to Use or Monthly	Annually
Lifting Bars, Spreader	Note 1	AMLD Form 4615-3:Prior to Use or Monthly	Annually
Special purpose LEAD manufactured slings	Note 1/IDD Exempt	AMLD Form 4615-3:Prior to Use or Monthly	Annually
Synthetic and non-synthetic slings	Note 1/IDD Exempt	AMLD Form 4615-3:Prior to Use or Monthly	Annually
Nylon, chain, and cable Slings	Note 1/IDD Exempt	AMLD Form 4615-3:Prior to Use or Monthly	Annually
Side-Grip Drum Lifters	Note 1/IDD Exempt	AMLD Form 4615-3:Prior to Use or Monthly	Annually
Exempt under the hook devices			
Shackles	WLL	N/A: Inspect prior to use	N/A
Pear eyes	WLL	N/A: Inspect prior to use	N/A
Miscellaneous intuitively identified devices	WLL	N/A: Inspect prior to use	N/A
Lifting, suspending and positioning devices			
Engine hoists	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Jacks, stands	Note 1	Inspect prior to use, AMLD Form 4615-5: Monthly	Annually
Jacks, floor	Note 1	Inspect prior to use, AMLD Form 4615-5: Monthly	Annually
Jacks, bottles	Note 1	Inspect prior to use, AMLD Form 4615-5: Monthly	Annually
Lift tables	Note 1	Inspect prior to use, DD-314: Monthly	Annually
LEAD manufactured carts	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Carts that are Commercial Off The Shelf (COTS) with capacities greater than 500 lbs or a working height greater than 48 inches	Note 1	Inspect prior to use, DD-314: Monthly	Annually

Chart 16-1. Equipment Marking and Inspection Specifications – Continued

Device	Labeling Marking	Required Forms: Completion interval	Inspecting Activity Inspection
Lifting, suspending and positioning devices - continued			
Adjustable engine stands	Note 1	Inspect prior to use, DD-314: Monthly	Annually
ASRS Devices (AGV Stands and robots)	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Antenna Positioners	Note 1	Inspect prior to use, AMLD Form 4615-9: Monthly	Annually
AGV Stands	Note 1	Inspect prior to use, AMLD Form 4615-6: Monthly	Annually
Trestles with capacities greater than 500 lbs or a working height greater than 48 inches	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Trestles with capacities 500 lbs or less or a working height of 48 inches of less	Note 1/IDD Exempt	Inspect prior to use, DD-314: Monthly	N/A
Sawhorses with capacities greater than 500 lbs or a working height greater than 48 inches	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Sawhorses with capacities 500 lbs or less or a working height of 48 inches of less	Note 1/IDD Exempt	Inspect prior to use, DD-314: Monthly	N/A
Cribbing exceeding a single piece of lumber	Note 1	Inspect prior to use, DD-314: Monthly	Annually
Pallet Jacks (No annual insp. Req.)	Note 1/IDD Exempt	Inspect prior to use, DD-314: Monthly	N/A
Mobile Lifting Devices			
Wreckers	Note 1	2205, Inspect prior to use	Annually
Mobile Cranes	Note 1	2205, Inspect prior to use	Annually
Scissor/Aerial Boom Lifts	Note 1	2205, Inspect prior to use	Annually
Forklifts	Note 1	2205, Inspect prior to use	Annually
Pintle Hooks-Forklift	Note 1	DD-314:Prior to Use or Monthly	Annually
Fifth wheel Att.-Forklift	Note 1	DD-314:Prior to Use or Monthly	Annually

Chart 16-1. Equipment Marking and Inspection Specifications – Continued

Device	Labeling Marking	Required Forms: Completion interval	Inspecting Activity Inspection
Mobile Lifting Devices - continued			
Drum Handlers-Forklift	Note 1	AMLD Form 4615-4:Prior to Use or Monthly	Annually
Forklift tong extensions	Note 1	DD-314:Prior to Use or Monthly	Annually
Hay Wagons	Note 1	AMLD 4615-10, Inspect prior to use or monthly	Annually
Trailers	Note 1	AMLD 4615-10, Inspect prior to use or monthly	Annually
Exempted miscellaneous lifting devices			
Carts that are Commercial Off The Shelf (COTS) with capacities of 500 lbs or less or a working height of 48 inches or less	N/A	None: Inspect prior to use	Annually by supervisor
Bread racks	N/A	None: Inspect prior to use	Annually by supervisor
Gravity racks	N/A	None: Inspect prior to use	Annually by supervisor
Supply carts	N/A	None: Inspect prior to use	Annually by supervisor
Pallet racks	IAW Para. 26-7 c	None: Inspect prior to use	Annually by supervisor
Non-adjustable engine stands	N/A	None: Inspect prior to use	Annually by supervisor
Office furnishings	N/A	None: Inspect prior to use	Annually by supervisor
Cribbing using a single piece of lumber	N/A	None: Inspect prior to use	Annually by supervisor
"Z" racks	N/A	None: Inspect prior to use	Annually by supervisor
"S" hooks	N/A	None: Inspect prior to use	N/A

Note 1:
*Property identification number
*Drawing number (If manufactured by or modified by LEAD)
*Capacity
*Inspection Due Date (IDD)

Chart 16-2. Process for Bringing Shop or Customer Fabricated Lifting Devices, Stands, and Carts to Record Rev X4, Part One.

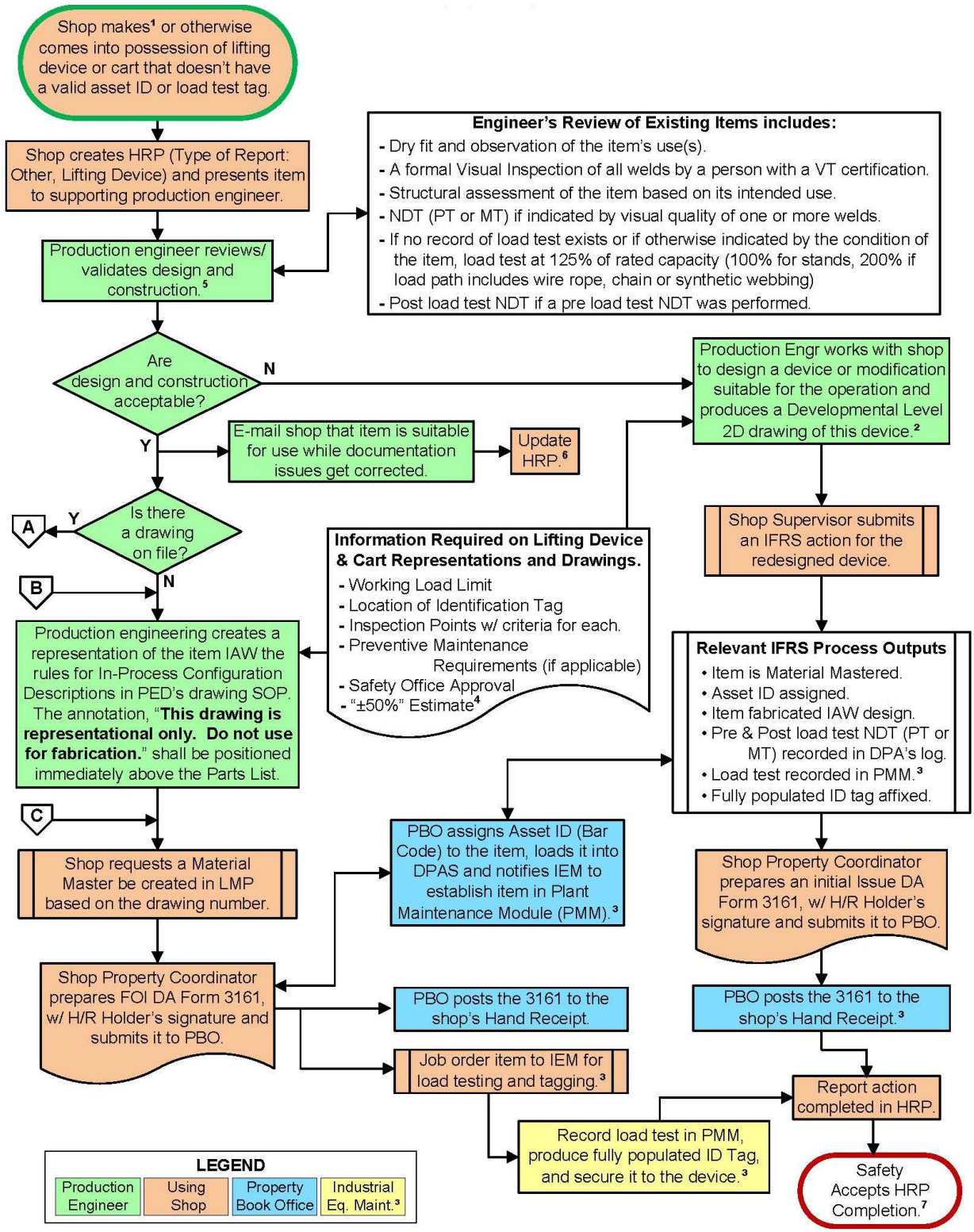
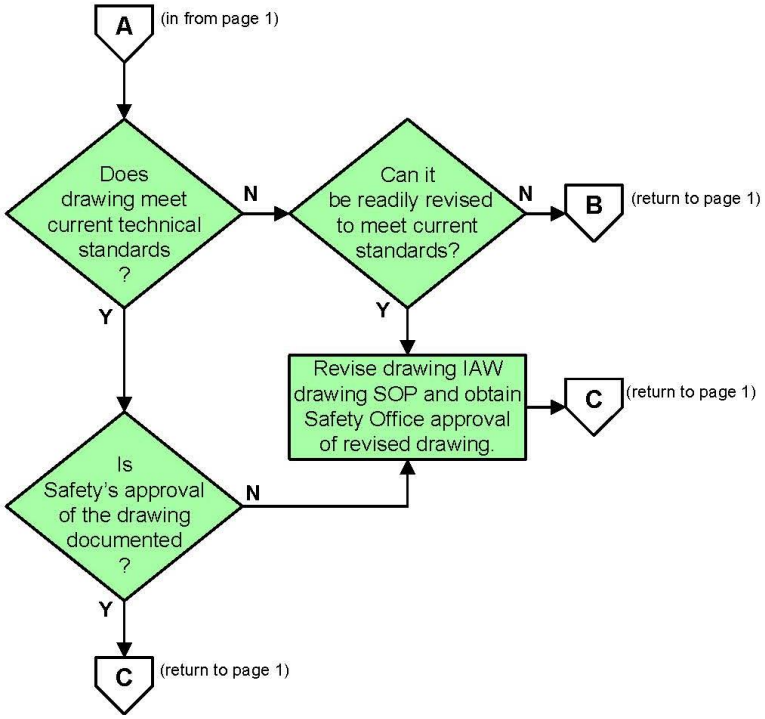


Chart 16-2. Process for Bringing Shop or Customer Fabricated Lifting Devices, Stands, and Carts to Record Rev X4, Part One.



NOTES
Note 1: It is against LEAD policy for shops to fabricate lifting devices, stands, and carts without the design having first been developed / documented by Production Engineering and approved by the Safety Office. The processes illustrated here cover the actions to be taken if that policy was not followed or the necessary records cannot be found. This process also applies to Customer Furnished Equipment.
Note 2: The right hand side of the diagram on the previous page illustrates the process for designing, fabricating and documenting new lifting devices, stands, and carts.
Note 3: For tools load testing, tagging and accountability are via the Tool Crib and ATICTS. For mobile equipment load testing, tagging and accountability are via the Motor Pool & FEMS.
Note 4: Only required on "not for fabrication" drawings.
Note 5: Construction deficiencies can be corrected at this point and the item re-presented to the engineer for evaluation. These corrections will invalidate any previous load test record.
Note 6: During the "catch-up" project, the deadline for completing this action is 30 days after the HRP was initiated.
Note 7: During the "catch-up" project the deadline for closing the HRP is 90 days after the HRP was initiated.

Chapter 17

Machine Guarding

17-1. Purpose. Assist supervisors, employees, and production engineering with identifying and mitigating hazards associated with machinery at LEAD.

17-2. Definitions/Explanation of Terms.

a. **Pinch Point:** Any part other than the point of operation at which it is possible for a part of the body to be caught between moving parts.

b. **Point of Operation:** The area where work is actually being performed during any process such as cutting, drilling, grinding, bending, forming, rolling, shearing, punching, pressing, etc.

c. **Safety Guard:** An enclosure, electronic safety device, mechanical restraint, or distancing designed to restrain or prevent any employee or employees in the areas from entering the point of operation on any machine or process.

17-3. Policies.

a. One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, nip/pinch points, rotating parts, flying chips, and sparks. Examples of guarding methods are: physical barrier guards, electronic safety devices, guarding by distance, and physical restraints. The point of operation of machines whose operations exposes an employee to injury shall be guarded. The guarding device shall be in conformity with any appropriate standard (OSHA, ANSI, Equipment Owner's Manual). In the absence of applicable specific standards guarding shall be designed and constructed as to prevent the operator, or any employees who may come in contact, from having any part of his/her body in the danger zone during operation. All machines designed for fixed locations shall be securely anchored to prevent walking or moving during operation.

b. Handheld portable tools shall be furnished by LEAD. Employees are not permitted to bring in tools from home.

c. Special precautions shall be taken on abrasive wheel machinery (table and floor mounted bench grinders).

(1). The safety guard shall cover the spindle end, nut, and flange projections.

(2). Work rests shall be used to support work. They shall be of rigid construction and designed to be adjustable to compensate for wheel wear. Works rests shall be kept closely to the wheel with a maximum opening of one-eighth inch to prevent work from being caught in between the rest and wheel.

(3). The distance between the wheel and adjustable tongue guard shall never exceed one-quarter inch.

(4). Dress wheels regularly and replace worn wheels if it cannot be dressed.

(5). Operators shall not grind on the side of a regular abrasive wheels.

(6). Operators shall not grind wood, plastics and soft metals on ordinary abrasive wheels.

(7). Prior to installation of a new abrasive wheel a ring test will be conducted. And all employees will be trained on performing a ring test. A wooden dowel will be in each work area next to the bench or table grinder.

d. Special precautions shall be taken on drill presses (table and floor mounted).

(1). 3-sided guards shall be installed and in-place during any drilling operation.

(2). Operators shall utilize a clamp or drill vise to secure material and prevent work from spinning.

(3). Operators shall ensure the drill bit or cutting tool is locked securely in the chuck and that the chuck key is removed before starting the drill press.

e. Special precautions shall be taken when working with Mechanical power presses.

(1). There are two types of power presses with different hazards that must be accounted for:

(a). Full revolution power press: This means that once the cycle is actuated the press cannot be stopped until it completely cycles through the stroke and returns to the start positon or programmed termination (means finishing all strokes programmed if automated for continuous cycling).

(b). Partial revolution power presses: these pieces of equipment can be stopped throughout the cycle however require the use of a press stop to ascertain the safety stop factor. These can be guarded with electronic means and can be equipped with E-stops that will engage but interlock the gate until the dye has come to a complete stop.

(2). Full revolution press shall be guarded with barrier guards that prevent employees from accessing the dye while cycling.

(3). Partial revolution presses shall be guarded through the use of light curtains, sensor arrays or barrier guards that prevent access to the dye.

f. Cut off wheels and other abrasives on hand operated tools are not required to be guarded if the diameter of the cut off wheel or abrasive disc is two inches or less.

g. Conveyor systems will be guarded in accordance with ASME B20.1:

(1). Belt conveyors will be guarded from all nip, pinch, and shear points as well as entanglement hazards.

(2). Guarding may include physical guards, electronic sensors, or guarding by distance. Guarding by distance would have to be defined.

(3). Conveyors with activated emergency stops shall be restarted from the location where the emergency stop was activated.

(4). Chain conveyors will be guarded by barriers such as guard rails to prevent employees from being caught in the system. In locations where chain conveyors are raised and lowered as a transfer mechanism if that mechanism cannot be enclosed suitable barriers or other methods of guarding by distance will be utilized.

(5). Bucket conveyors shall be guarded at points where personnel could come into contact with cables, chains, belts, and runways of the conveyor. Inspection and maintenance doors shall be secure (locked or interlocked to prevent unauthorized entry) and shall include warning signs.

(6). Live roller conveyor system guarding shall on belt or chain or combination drive systems be guarded by location or, the nip points, transfer points, pop-outs, shears, take-ups, deflectors and drive systems shall be enclosed to prevent access to the hazards.

(7). For more detailed support please contact the LEAD safety office.

17-4. Responsibilities.

a. Safety Office will:

(1). Analyze and inspect all equipment to identify point-of-operation hazards and other hazards associated with machinery.

(2). Provide oversight, guidance, and training to assist supervisors in making machine guarding decisions.

(3). Apply Risk Management techniques to determine the hierarchy of machine safeguards and apply the appropriate level of controls (lockout tag out, training, etc.).

(4). New machinery shall be reported in the electronic Notification of Change system outlined in Chapter 1.

b. Supervisors will:

(1). Ensure each operation requiring machinery will be assessed for hazards prior to the start of work.

(2). Ensure Job Safety Analyses (JSA) are written and approved with appropriate detail of the machine's hazards and methods of control.

(3). Follow safety, operational, and preventative maintenance instructions located in the original equipment owner's manual.

(4). Provide employee training and document on each piece of machinery prior to employee usage.

(5). Enter any hazardous machine conditions into the Hazard Reporting Process (HRP).

(6). Consult with the Production Engineering and the Safety Office prior to implementation of new machinery.

(7). Periodically inspect all fixed machinery and hand tools to ensure the factory installed guards are in place and not modified.

(8). Integrate Risk Management into all machine operation with special focus on machines that may require hands-in the operation. Items such as lathes, CNC machines, and similar asset may require additional safeguards.

c. Employees will:

(1). Promptly report any machine hazards to their cost center supervisor and enter into HRP.

(2). Complete training and read/sign the machine specific JSA prior to equipment operation.

(3). Ensure guards are in place prior to use, and if applicable perform prior to use tests on machine guarding systems such as interlocks, pressure sensitive mats, light curtains, and physical restraints.

(4). Not operate unguarded equipment under any circumstances.

d. Production Engineering Division will:

(1). Promptly report the modification, redesign or relocation of production machinery to the Safety Office and Industrial Equipment Maintenance.

(2). Serve as the technical experts and provide engineering assistance in machine guarding actions.

(3). Ensure that machine guarding designs are reviewed and approved by the Safety Office.

e. Industrial Equipment Maintenance will:

(1). During the course of routine inspections and periodic maintenance, promptly report any machine assets to the Safety Office that have damaged, disabled, removed, or bypassed guards.

(2). During the course of routine inspections and periodic maintenance, promptly report any machine asset to the Safety Office that is not being used in accordance with original equipment manufacturer's instructions.

(3). During the course of routine inspection and periodic maintenance, promptly report any machine asset that is unsafe to use and presents a hazard to employees immediately to the Safety Office.

Chapter 18

Electrical Safety Program

18-1. Purpose. To establish local policy for ensuring compliance with 29 CFR 1910 subpart S, NFPA code 70, NFPA code 70E, and AR 385-26. Compliance with these regulations will assist in ensuring the protection of employees from electrical hazards and establishes safe electrical working practices.

18-2. Responsibilities.

a. The Commander will:

(1). Assign an Authority Having Jurisdiction (AHJ) to maintain and enforce the requirements set forth by this chapter and all applicable NFPA, OSHA, and Army electrical safety requirements.

b. The Safety Office will:

(1). Work with the DPW facilities engineering, DPW Utilities, and other qualified electrical professionals to assist in interpreting codes and standards to ensure LEAD maintains and enforces the requirements set forth by this chapter and all applicable NFPA, OSHA, and Army requirements. A qualified electrical professional is defined as having in depth knowledge, skills, or abilities to evaluate electrical designs and construction and possesses a combination of education and experience necessary to understand and apply the theory behind the various codes.

(2). Conduct an annual evaluation of the Electrical Safety Program to ensure its effectiveness and applicability to the LEAD operations. The evaluation will also include an assessment of employee's abilities to perform electrical work in accordance with NFPA, OSHA, Army, and Local requirements.

c. DPW will:

(1). Provide facilities electrical engineering support to the organizations on LEAD as required.

(2). Provide qualified electricians to carry out the repairs for the electrical system, as required by LEAD's operations.

d. Supervisors will:

(1). Ensure all applicable subordinate employees are trained in accordance with this chapter and applicable NFPA, OSHA, Army, and local regulations.

(2). Strictly enforce the requirements of all electrical safety program elements within this chapter and applicable NFPA, OSHA, Army, and local regulations.

18-3. Training: In addition to being certified and qualified in accordance with the OPM standards for electricians and other job descriptions which require employees to work with electrical components, the following training is required of LEAD employees:

a. Unqualified Persons: Employees who work around 50 volts or more and face a risk of electric shock that is not reduced to a safe level by the physical electrical insulation requirements, have initial and annual training on safe work practices and code changes. Retraining is also required when there are changes in equipment or employee demonstrates inadequacies of electrical safe work practices or when employees are involved in incidents of an electrical nature. This training will include responding to electrical shock situation. Employees of work areas that maintain an electrical safety board will be trained in methods of removing individuals who have been exposed to a shock hazard.

b. Qualified Persons: Only DPW utilities branch employees and applicable contractors are permitted to work on live electrical components and circuits. These employees will be arc flash trained every three years.

18-4. Safe Electrical Working Principles, Controls, Procedures, and Requirements.

a. All electrical equipment will be inspected and evaluated for electrical hazards prior to conducting work on such equipment. The inspection shall include a review of the electrical equipment's insulation and enclosure integrity. Every electrical conductor or circuit part will be considered energized until proven otherwise. Note that the de-energizing of an electrical conductor or circuit part and making it safe to work on is, in itself, a potentially hazardous task.

b. All work on live or potentially live equipment will be planned to ensure the appropriate dissipation or control of potential electrical energy. Work on new or unique equipment will require the documentation of safe dissipation or control methods to ensure other employees are aware of the protection methods. Documentation updates may be necessary for JSAs, work instructions, or SOPs to capture important distinctions of unique equipment.

c. All employees exposed to energized electrical work as defined above will de-energize the equipment. In the event that the work cannot be de-energized, the Utilities Branch of DPW will be contacted to perform energized electrical work as outlined in section 18-5 of this chapter.

d. All efforts will be made to reduce additional non-electrical hazards within the workplace so as to further reduce potential employee exposure to electrical hazards. Proper housekeeping and work area organization will provide additional protection from unanticipated or unexpected events and plays a significant role in identifying and minimizing electrical and non-electrical hazards.

e. Employees working with electrical components will practice safe working behavior with regards to the electrician trade so as to protect themselves from shock, burn, blast, and other hazards due to the conditions of the working environment.

f. Electricians will only use tools designed for electrical work. Non-electrician type tools may only be used after they have been approved by the manufacturer or a qualified engineer.

g. No bare-hand contact is to be made with exposed energized electrical conductors or circuit parts operating at 50 volts or more, unless the bare-hand method is properly used.

h. An arc-flash hazard assessment will be conducted on every electrical panel prior to performing any energized electrical work or testing to verify that any electrical hazard has been appropriately controlled or released. In the event an arc-flash survey has not been conducted in advance, the electrician shall use the simplified method for conducting an arc-flash hazard assessment as outlined in NFPA 70E prior to performing work. While it is understood that the simplified method will likely produce an arc-flash category rating higher than what an arc-flash survey would indicate, electricians will abide by the higher rating until an arc-flash survey has been conducted to reduce the arc-flash category level.

18-5. Energized Electrical Work Permit.

a. This applies to DPW Utilities Branch personnel only. Energized Electrical work WILL NOT be conducted by any other organization at LEAD unless approved in writing by the LEAD Safety Office. All work requiring Energized Electrical Work will be conducted by the DPW Utilities Branch only. All support from DPW will be routed through the DPW help desk.

b. Definitions:

(1). **Energized Electrical Work:** Energized electrical conductors and circuit parts to which an employee might be exposed. Examples include:

(a). The employee is within the limited approach boundary.

(b). The employee interacts with equipment where conductors or circuit parts are not exposed, but an increased risk of injury from an exposure to an arc flash hazard exists.

c. Prior to starting Energized Electrical Work, an Energized Electrical Work Permit will be obtained by the completing AMLD Form 4346 Energized Electrical Work Permit. The permit will be completed and approved by a trained electrician and approved by designated LEAD Authority Having Jurisdiction (AHJ). Instructions on the second page of AMLD Form 4346 will be followed explicitly to ensure that employees are protected from the hazards associated with Energized Electrical Work.

d. An Energized Electrical Work Permit is not required if the following circumstances apply in accordance with NFPA standard 70E.

(1). **Exemptions to Energized Electrical Work Permit.** Work performed within the limited approach boundary of energized electrical conductors or circuit parts by qualified persons related to tasks such as testing, troubleshooting, and voltage measuring shall be permitted to be performed without an energized electrical work permit, if appropriate safe work practices and personal protective equipment in accordance with section 18-4 of this chapter are provided and used. If the purpose of crossing the limited approach boundary is only for visual inspection and the restricted approach boundary will not be crossed, then an energized electrical work permit shall not be required.

18-6. Electrical Safety Board.

a. In general, Electrical Safety Boards will be painted white with a 2-inch green border. The board title will be white lettering on a green, rectangular background. Lettering to designate position of board items will be in black on the white background. The boards will be of sufficient size and conformation to adequately display the equipment without clutter. The average sizes of most boards are approximately 48 inches by 48 inches.

b. Each facility in which employees are exposed to 50 volts or higher shall maintain Electrical Safety Boards in accessible and conspicuous locations. Electrical safety equipment on these boards may not be used for routine purposes. Equipment on Electrical Safety Boards must be inspected monthly and results documented on a DD Form 314 or equivalent. Gloves shall be proof tested biannual to ensure durability and ready for use. Safety hooks and grounding stick shall be proof tested every 2 years to ensure durability and ready for use. Once the equipment is used for emergencies, it shall be proof tested. All proof test results will be documented on respective DD Form 314 or equivalent. The minimum equipment available on an Electrical Safety Board will include:

(1). Safety instructions with location of nearest Automated External Defibrillator (AED).

(2). Rope, lanyard, 3/8 inch, 25 feet.

(3). Gloves, rubber, 3000 volts.

(4). Goggles, safety.

(5). Safety hook.

(6). Grounding stick.

(7). Flashlight, operational.

(8). Grounding cables, #10 stranded with clips.

(9). Emergency telephone numbers/procedures.

c. First Aid and Emergency Procedures: Many victims of electrical shock can be saved with proper and continued first aid. When you see someone in trouble with an electrical conductor, follow these steps:

(1). Remove the person from the source of current. When you see the victim can’t let go of a live conductor, IMMEDIATELY KILL THE POWER OR PULL HIM/HER AWAY, WHICHEVER IS FASTER. If you have to pull the employee, DON’T TOUCH HIM/HER DIRECTLY or you may place

yourself in the circuit and also become a victim. Instead, pull or pry him/her loose with the rope or safety hook provided on the electrical safety board.

(2). Immediately have someone call 911 to report the emergency.

(3). Only those personnel trained in CPR should administer CPR. If CPR is going to be given a mouth-to-mouth barrier should be used. Reference the list of CPR/AED trained personnel within the area. A copy MUST be placed on all electrical safety boards.

(4). After the employee is removed safely away from the live conductor, seek medical, help, and if necessary, apply CPR/AED and continue to do so until you are relieved by trained medical personnel. **Use AED only if trained to do so.**

18-7. Extension Cords Will:

a. Be inspected for the following items prior to use:

(1). Broken or cracked insulation

(2). Broken or missing ground plugs

(3). Damaged outlet casing

(4). Cords to be UL Listed

b. Be used for temporary purposes only and not to exceed 60 days of continuous use.

c. Not be “Daisy Chained” for any reason. If the available extension cords are not long enough, a longer extension cord will be obtained or portable electric power will be obtained for the project.

d. Not be ran under carpets, floor mats, or any other material that could hide or cause damage to the extension cord. Cord covers specifically designed to protect an extension cord from damage when it must cross a path of travel may be used.

e. Not be ran through or behind permanent walls. Any cord ran through a locker or other cabinet will be protected from any potentially sharp edges on the cabinet or locker.

f. Not be left unattended when not in use. Unused extension cords will be stored in a fashion that will not damage the cord or cause a trip hazard.

g. Not be used to power appliances such as portable personal heaters, toasters, microwaves, refrigerators, or any other equipment where the manufactures recommends or requires the equipment to be plugged directly into a wall outlet.

h. Not be overloaded based on their ampere rating.

18-8. Surge Protectors Will:

a. Comply with all requirements of extension cords as stated in section 18-7 of this chapter with the following exceptions:

(1). Surge protectors may be used for periods longer than 60 days.

(2). The purpose of surge protectors is to provide electrical surge protection from a buildings electrical system. This includes computer equipment, printers, and other sensitive IT type equipment.

(3). Even though surge protectors may be rated for as many amperes as some extension cords, only low amp draw equipment will be plugged into them. There are few exemptions to using surge protectors

for purposes other than surge protection. The only current exemption is for the use of plugging in battery charging stations. Additional exemptions will be provided by the LEAD AHJ.

18-9. Operators of Portable Personal Heaters Will:

a. Plug heaters directly into a wall outlet. Portable heaters may not be plugged into extension cords or surge protectors. Be sure the heater plug fits tightly into the wall outlet. If not, do not use the outlet to power the heater. During use, check frequently to determine if the heater plug or cord, wall outlet, or faceplate is hot. If so, discontinue use of the heater and have a qualified electrician check and/or replace the plug or faulty wall outlet(s). If the cord is hot, disconnect the heater, and have it inspected and/or repaired by an authorized repair person.

b. Ensure that the heater is placed on a stable, level surface, and located where it will not be knocked over. All portable heaters will be equipped with a tip over sensor which automatically shuts off the heater should it fall over.

c. Never leave the heater operating while unattended or while sleeping.

d. Keep combustible material such as trash cans, recycle bins beds, sofas, curtains, papers, and clothes at least 3 ft (0.9 m) from the front, sides, and rear of the heater.

e. Never operate a heater suspected of being damaged. Before use, inspect the heater, cord, and plug for damage.

f. Follow all operation and maintenance instructions or visit http://www.recalls.gov to see if that model of electric heater has been recalled. Also visit the Consumer Safety Product Services Web site at http://www.cpsc.gov for additional information.

g. Always keep electric heaters away from water, and never touch an electric heater if skin or clothing is wet.

h. Consult with supporting facility electricians on older buildings to determine if the building wiring can support the additional load of portable electric heaters.

i. Only use heaters that are UL Listed.

18-10. Static Electricity

a. This section applies to equipment and operations where either by itself or in combination with other factors, such as a flammable atmosphere, static electricity presents a risk of injury to personnel or damage to facilities or equipment. Examples include equipment and operations where high levels of static electricity can be generated such as blasting operations, in locations where there is a potential for a flammable atmosphere such as the dispensing, transferring, or disposing of flammable chemicals, or where required by equipment manufacturers, SDSs, or applicable rules, laws, or standards.

b. This section does not apply to ammunition and explosives equipment and operations. Reference Chapter 22 of the regulation.

c. Equipment or operations which require bonding and/or grounding to dissipate static electricity to a facility ground will use conductors and connecting devices that result in a reading greater than 0 and less than 1.0 ohm. When bonding multiple objects to place them at the same potential energy, the connecting devices, such as cable reels, shall result in a reading greater than 0 and less than 10.0 ohms. Any reading outside of these parameters will be identified as inadequate, and the equipment or operation will be lockedout/taggedout until repaired and a new reading within the acceptable parameters is obtained and recorded. If a more restrictive resistance is required by the equipment manufacturer or operation, it shall be documented in the system of record followed.

d. Responsibilities:

(1). Production Engineering will:

(a). Identify and report equipment and operations which require bonding and/or grounding to Industrial Equipment Maintenance.

(b). Notify the Safety Office of situations where the requirement for bonding and/or grounding is unknown or questionable.

(c). Strictly adhere to and document the manufacturer's Safety Data Sheet (SDS) recommendations for grounding, bonding, and static electricity controls on the AMLD Form 4010, Hazardous Material Group Approval (HMAG) forms. If deviations are requested, they will be documented on DD Form 2977, Deliberate Risk Assessment Worksheet, and routed to the appropriate Risk Acceptance Authority.

(d). Provide engineering support as applicable to assist operations which require bonding, grounding, and the control of static electricity.

(2). Industrial Equipment Maintenance will:

(a). Ensure equipment that requires bonding and/or grounding is inspected and validated at least annually during the appropriate preventative maintenance cycle. All validations on such equipment will be logged in the appropriate system of record for preventative maintenance tracking. Use of AMLD Label 5552 is not required for equipment covered in this section. For the purposes of this paragraph, equipment is defined as items that are bar coded and inspected on a regular recurring basis for preventative maintenance purposes.

(b). Establish appropriate bonding and/or grounding locations on equipment or in operations that are not subject to regular preventative maintenance checks as outlined in the previous paragraph. These locations will be assigned a tracking number and loaded in the appropriate system of record for annual validation. The annual validation of these locations will be documented in the system of record and on AMLD Label 5552 which will be affixed to the equipment or in the immediate area of the operation.

(c). Ensure that the annual validation of bonding and/or grounding is completed on the entire bonding and/or grounding system. This includes validation of continuity between the bonding and/or grounding system of the equipment or operations and the facility grounding system.

(3). Supervisors will:

(a). Report to Industrial Equipment Maintenance equipment and operations that require bonding and/or grounding that have been overlooked by Production Engineering.

(b). Submit the appropriate service order or work order to have reported bonding and/or grounding deficiencies repaired.

(c). Lockout and/or tagout locations where bonding and/or grounding deficiencies are identified and cannot be immediately addressed.

(d). Strictly adhere to and enforce the recommendations on the HMAG forms and manufacturers SDS.

(e). If required, develop detailed controls in a Job Safety Analysis (JSA) and add this to the Cost Center's DD Form 2977 Deliberate Risk Assessment Worksheet.

(f). Report any changes to the operations that could affect bonding and/or grounding to Production Engineering, the Safety Office, and Industrial Equipment Maintenance prior to the implementation of any change.

(4). Employees will:

(a). Visually inspect the bonding and/or grounding system for equipment and operations at locations where the use of AMLD Label 5552 is required. This will be completed prior to the start of work.

(b). Review and implement all recommendations on the HMAG forms, manufacturers SDS, completed JSA, and the Cost Center's DD Form 2977 Deliberate Risk Assessment.

(c). Immediately report bonding and/or grounding deficiencies to the responsible supervisor if they cannot be addressed on the spot.

(5). The Safety Office will provide periodic oversight of the requirements of this section to validate compliance by all covered entities.

Chapter 19

Walking Working Surfaces and Fall Protection

19-1. Purpose. The purpose of this program is to establish the minimum requirements and responsibilities for LEAD employees when on walking-working surfaces; including the shop floor, elevated work platforms, ladders, stairways, and rooftops. This program is designed to protect all employees engaged in work activities that expose them to slips, trips, and falls when working at ground level or at elevations.

19-2. Policies.

a. This program applies to all Letterkenny Army Depot employees who perform any work activities that expose them to slips, trips, or falls through unguarded floors and wall openings, floor holes, and falls from elevated work, platforms, and roofs. Employees shall not be exposed to fall hazards without being provided adequate and appropriate training.

19-3. Definitions:

a. **Anchor:** A secure point of attachment for lifelines, lanyards, or deceleration devices.

b. **Body Harness:** Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a personal fall arrest system.

c. **Competent Person:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate the hazards.

d. **Connector:** A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or dee-ring sewn into a body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

e. **Designated Area:** A space which has a perimeter barrier erected to warn employees when they approach an unprotected side or edge, and serves also to designate an area where work may be performed without additional fall protection.

f. **Fall Restraint System:** A fall protection system that prevents the user from reaching a fall hazard and/or entering into free fall.

g. **Free Fall:** The act of falling before a personal fall arrest system begins to apply force to arrest the fall.

h. **Guardrail (Standard Rail) System:** A barrier erected to prevent employees from falling to lower levels. Must have a top rail measured at 42” (+/- 3”) that must be able to support 200lbs of downward force, and a mid-rail that must be able to support 150lbs of downward force.

i. **Hole:** Means a gap or open space in a floor, roof, horizontal walking working surface, or similar surface that is at least 2” in its least dimension.

j. **Lanyard:** A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

k. **Lifeline:** A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

l. **Opening:** An opening at least 30 inches high and 18 inches wide, in any wall or partition, through adjoining platforms, or production assets through which persons may fall to a lower level.

m. **Personal Fall Arrest System:** A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and a body harness.

n. **Platform:** A working space for persons, elevated above the surrounding floor or ground.

o. **Qualified Person:** One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated ability to solve or resolve problems related to the subject, the work, or the project.

p. **Riser:** The upright member of a step situated at the back of a lower tread and near the leading edge of the next higher tread.

q. **Self-Retracting Lifeline (SRL):** A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted into, the drum under minimal tension during normal employee movement and which, after onset of a fall, automatically locks the drum and arrests the fall.

r. **Stairs/Stairway:** A series of steps leading from one level or floor to another, or leading to platforms, pits, around machinery, tanks, and other equipment that are used more or less continuously or routinely by employees, or only occasionally by specific individuals.

s. **Stair Railing:** A vertical barrier erected along exposed sides of a stairway to prevent falls of persons

t. **Toe board:** A low protective barrier that will prevent the fall of materials and equipment to lower levels and

u. **Walking/Working Surface:** Any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, runways, platforms on which employees must be located in order to perform their job duties.

19-4. Responsibilities.

a. The Safety Office will:

(1). Appoint a Fall Protection Program manager and ensure a Fall Protection Program is in place and updated when necessary.

(2). Ensure and provide regulatory required training.

(3). Interpret and provide regulatory guidance.

(4). Ensure compliance with regulatory requirements through site inspections, accident investigations, and near misses.

(5). Record noncompliance of walking working surface and fall protection hazards promptly into the Hazardous Reporting Process (HRP).

(6). Conduct work site assessments, identify walking working surface hazards, and provide recommendations and guidelines for resolving hazards and suggesting and approving fall protection systems.

(7). Inspect work areas to ensure this chapter is implemented, training is documented, walking working surfaces are inspected as required, and employees are using fall protection in a safe and proper manner.

(8). Conduct an annual program review.

(9). Assess risk and provide consultation to employees and leadership.

(10). Provide Safety Engineering solutions and assist production engineering when applicable.

b. Production Engineering Division will:

(1). Assist in conducting work site assessments prior to determining the location of production assets to ensure the products do not create a hazard or add risk.

(2). Provide engineering assistance in the evaluation, coordination, ordering, and purchasing of fall protection systems.

(3). Work closely with the Safety Engineer to assist in compliance of regulatory requirements.

(4). Ensure Fall Protection Program requirements are integrated into all applicable contracts.

(5). Apply risk management principles to all facets of production engineering that affect walking working surfaces and fall protection.

c. Directors will:

(1). Ensure the walking working surfaces within their directorates are inspected at intervals that provide adequate protection to their employees and processes.

(2). Ensure supervisors are held accountable for enforcement of the walking working and fall protection management, and take disciplinary actions in accordance with LEAD-R 690-1.

(3). Not accept risk identified as regulatory requirements and ensure all other risk is accepted at the appropriate level.

d. Supervisors will:

(1). Assess current and new processes, routine and non-routine, to determine if walking working surfaces and fall hazards exist.

(2). Take prompt action to report and correct identified hazards through HRP.

(3). Inspect walking working surfaces at the appropriate intervals based on the process, location, and risk associated with each task; ie daily, weekly, monthly, or a maximum of quarterly.

(4). Assess each task for fall hazards, identify the need and availability for adequate fall protection, and submit purchase request, as needed.

(5). Develop written procedures, Job Safety Analysis (JSA), to address walking working surfaces and fall hazards in each process and identify proper procedures and/or fall protection system(s).

(6). Review JSAs initially and annually with each affected employee.

(7). Ensure fall protection systems are inspected, maintained, and used properly.

(8). Ensure employees are held accountable to follow the Fall Protection Program. Take disciplinary actions in accordance with LEAD-R 690-1.

(9). Incorporate walking working surface and fall protections hazards with solutions to the Cost Center Risk Assessments and ensure risks are accepted at the appropriate level.

(10). Ensure no employee works (4) feet or above with an open side or edge without a fall restraint or personal fall protection system.

(11). Involve employees in the risk management process.

e. Employees will:

(1). Assist in assessing current and new processes, routine and non-routine, to mitigate walking working surface and fall protection hazards.

(2). Assist in evaluating fall hazards to determine whether or not they can be eliminated through engineering controls, or change in process.

(3). Provide information and assistance to the supervisor for developing written procedures.

(4). Review and be familiar with Cost Center Risk Assessments and applicable JSAs prior to performing work where hazards exist.

(5). Ensure no work is attempted (4) feet or above with an open side or edge without a fall restraint or personal fall protection system.

(6). Not be exposed to a fall hazard without utilizing adequate fall protection.

(7). Receive required training outlined in this program before being exposed to fall hazards.

(8). Maintain and inspect walking working surfaces and fall protection systems, report deficiencies to the area supervisor immediately.

(9). Ensure other employees are following fall protection requirements and report violators.

f. Contractors will:

(1). External contractors working on Letterkenny Army Depot are required to comply with this regulation and all other applicable OSHA workplace safety regulations. Contractor's safety programs shall be available for review upon request by representatives of the Safety Office.

(2). External contractors will have access to this publication through the LEAD external website link.

19-5. Training.

a. LEAD Safety is responsible for ensuring that Walking Working Surfaces – Fall Protection training is provided to LEAD employees exposed to falls when working four (4) feet or more above a lower level. Training will be provided upon initial assignment to a location that requires an employee to work from elevated surfaces or whenever there is reason to suspect a previously trained employee does not have the understanding and skill required to safely work from elevated surfaces.

b. Training and instruction will be provided by competent persons knowledgeable in all aspects of fall protection.

c. Reference LEAD-R 385-1, Chapter 5 for specific training requirements.

19-6. Walking Working Surfaces.

a. General Requirements:

(1). All walking/working surfaces shall be kept clean, dry (where possible), and orderly.

(2). Every floor, workplace, and passageway shall be kept free from protruding parts, materials, tools, or pallets.

(3). Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, or vats that may reasonably present a hazard.

(4). Any floor, building roof, or internal room/structure shall not be overloaded with materials and/or equipment over the approved load limits. Elevated storage and other platforms shall be marked with the load bearing weight.

(5). All permanent aisles and passageways shall be clearly marked, have adequate space for passage of both moving equipment and employees, have safe clearances at all turns, doors, and aisleways, and shall not be obstructed by physical barriers or stored materials.

(6). The AMLD 4658 Roof Access Permit or an approved JSA shall be used to access roof surfaces.

(7). Housekeeping is paramount to safe walking working surfaces and is required to be performed at an interval that maintains a clean work area and at a minimum of daily, this requirement is for indoors, outdoors, vehicles, or any material handling equipment.

b. Openings and Holes:

(1). Every opening or platform shall be guarded by a standard railing.

(2). Toe boards shall be installed around floor and openings where the potential exists for tools and other materials to fall on employees working below.

(3). All holes and openings, including pits, ladder way floor openings and chute openings must be safely covered or blocked from access.

(4). Floor surfaces surrounding the opening shall be free of clutter and slippery material.

c. Fixed Industrial Stairs:

(1). Standard stair railings and handrails shall be provided on stairs with four or more risers.

(2). Stairs should be free of clutter, and treads must be reasonably slip resistant.

(3). Stairs should be of uniform riser heights and tread depths between landings.

(4). When a door or a gate opens directly on a stairway, a platform is provided, and the swing of the door or gate does not reduce the platforms effective usable depth to less than 20 inches.

(5). Each step can support 5 times the normal anticipated live load but never less than 1,000lbs.

(6). Have a maximum riser height of 9.5 inches and a minimum tread depth of 9.5 inches.

d. Ladders:

(1). Portable ladders:

(a). Ladders are only used for the purposes for which they were designed.

(b). Portable ladders will be placed so that the distance from its foot to the wall is one-fourth the length of the extended ladder and on solid footing.

(c). Do not place ladders in front of doors or doorways, which open toward the ladder, unless they are locked, blocked or guarded.

(d). Extended ladders used to gain access to an upper landing surface must extend a minimum of 3-foot above that surface.

(e). Ladders will not be placed against electrical or telephone wires or operational piping (sprinkler system, etc.).

(f). The user shall not overreach, but shall descend and relocate the ladder instead. Center of gravity must stay inside the side rails at all times.

(g). Portable ladders are not considered fall protection and shall not be used in place of more adequately suited equipment.

(h). Do not carry objects or loads that could cause loss of balance and falling.

(i). An undocumented risk assessment shall be made prior to using a portable ladder.

(j). Secure ladders used in areas such as passageways, doorways, or driveways, or where they can be displaced by workplace activities or traffic to prevent accidental movement.

(2). Fixed ladders:

(k). Fixed ladders that measure more than 24 feet in height will have a ladder safety system or a cage installed.

(l). The side rails of through or side step ladders extend 42 inches above the top of the access level or landing platform.

(m). Any ladder with structural damage, corrosion, or other defects will be immediately tagged "Dangerous Do Not Use".

(n). Any ladder leading to an unprotected surface such as a roof that is not equipped with fall protection, standard rails, or a warning line shall be tagged until fall protection is added.

(o). Ladders shall be equipped with a self-closing gate that swings in the direction of roof or platform access (chains are a temporary solution and should only be used until a gate is installed).

(3). Inspection of ladders. Ladders will be identified by owning cost center. They shall be visually inspected prior to use and documented at a minimum of every month, and recorded on the AMLD Form 4615. Broken or damaged ladders will be tagged and removed from service.

e. Scaffolding: A scaffold is defined as any temporarily located elevated platform used for supporting workmen or materials in the course of any and all types of construction work, including maintenance and demolition. Scaffolds will be used for work that cannot be done safely from the ground. Specific scaffolding standards can be attained by the Safety Office.

f. Mobile Ladder Stands, Mobile Ladder Platforms, and Step Stools:

(1). Mobile platform ladders will have steps that are slip resistant.

(2). The maximum work-surface height of mobile ladder stands and platforms does not exceed four times the shortest base dimension.

(3). Mobile ladder stands and platforms that have wheels or casters are equipped with a system to impede horizontal movement when an employee is on the stand or platform. This can include a braking system or locking style ratchet straps.

(4). No mobile ladder stand or platform shall be moved with an employee on it.

(5). An undocumented risk assessment shall be made prior to using a mobile ladder stand, platform, or step stool.

(6). Mobile ladder stands, platforms, and stools shall not exceed the manufacturer's weight limit for use.

(7). All mobile ladder stands, platforms and step stools are inspected visually prior to each use and documented at a minimum of every month on the AMLD Form 4615. Any defects shall render these

stands unusable and should be immediately tagged “Dangerous Do Not Use”. This includes but not limited to excessive paint that impedes the ability to inspect the asset, missing or broken brakes, missing rubber or plastic bases, bent or broken supports.

19-7. Fall Protection Systems

a. LEAD is dedicated to taking every reasonable precaution to identify and mitigate fall hazards prior to introducing employees to work at height. In so doing LEAD has adopted a fall protection program in accordance with ANSI Z359.2 that meets or exceeds 29 CFR 1910, 1926, EM 385-1 and DA Pam 385-1. This program is to provide protection for each employee exposed to fall or falling object hazards. LEAD will ensure that all fall protection and falling object protection required by this section meet or exceeds the criteria in 29 CFR 1910.29, 29 CFR 1926 subpart M, ANSI/SAIA A92.22, ANSI Z359, and ANSI A1264.1. This program establishes responsibilities, training requirements, evaluation frequency to determine the effectiveness for training and program implementation, procedures and requirements for implementation of fall protection systems.

b. Definitions:

(1). **Authorized Person:** An employee who the employer assigns to perform a specific type of duty, or allows in a specific location or area.

(2). **Competent Person:** An individual responsible for the immediate supervision, implementation and monitoring of the employer’s managed fall protection program who, through training and knowledge, is capable of identifying, evaluating and addressing existing and potential fall hazards, and who has the employer’s authority to take prompt corrective action with regard to such hazards.

(3). **Fall Protection:** Any equipment, device or system that prevents an accidental fall from elevation or that mitigates the effect of such a fall.

(4). **Qualified Person:** The qualified person is an engineer that through education, professional certification in a related field or both, has knowledge and understanding of applicable fall protection regulations, standards, equipment and systems, physical sciences, engineering principles, and mandatory requirements for fall protection equipment and systems used by the employer. The qualified person shall meet all requirements of a competent person.

(5). For additional definitions please see ANSI Z359.0.

c. Responsibilities.

(1). Commander will:

(a). Establish the program and requirements that shall be followed by all personnel.

(b). Designate in writing the fall protection program administrator and convey the authorities of such designation in accordance with ANSI Z359.2 Chapter 4.2.

(c). Ensure through budgeting and program planning, access to up to date standards, PPE, engineering controls, training and other support as identified by the Program Administrator.

(d). Ensure Supervisors are training in fall protection procedures and requirements.

(2). Program Administrator will:

(a). Be designated in writing, and shall be a competent and qualified person.

(b). Establish and assign program duties to trained and qualified individuals to perform.

(c). Oversee and support the systematic identification and control of fall hazards utilizing the hierarchy of controls throughout the depot.

(d). Ensure all fall hazards requiring active fall protection (AFP) have established fall protection procedures.

(e). Participate in all fall related incidents and investigations through direct action or by assigning qualified personnel to conduct them and review those findings.

(f). Establish and report on the effectiveness of the protection program, through monitoring, trend analysis and make improvements accordingly.

(3). Safety Office will:

(a). Ensure the program meets ANSI Z359.2 requirements.

(b). Evaluate all work areas in support of the Program Administrator and in coordination with area supervisors to identify all fall hazardous areas and categorize those hazards.

(c). Provide training and support on fall protection and fall hazards at the request of supervisors, union representatives, or employees.

(d). Conduct an annual program review of the depot walking and working surfaces program, including fall protection.

(4). DPW Engineering will:

(a). Ensure all plans for future construction include passive fall protection methods wherever feasible and designated and rated anchorages are installed where active systems are required.

(b). Verify all existing facility anchor points and certify load capabilities.

(c). Establish anchor points and ratings for mitigating all fall hazards currently not already mitigated through passive fall protective means.

(d). Provide all certifications of anchor points to the Program Administrator and Safety Office.

(e). Supervise the design, selection, installation, use, and inspection of certified anchorages.

(5). Fire Department and EMS will:

(a). Develop and provide the Safety Office and program administrator written rescue procedures in accordance with requirements set forth by ANSI Z359.2 Section 9 and NFPA 101.

(6). Supervisors and other designated competent persons will:

(a). Be trained to the competent person level and have the authority to exercise the responsibility of that designation.

(b). Take prompt action to address fall hazards and stop work as necessary to assess and mitigate the hazards.

(c). Enforce all fall protection policies and procedures, and promptly discipline those who violate the policies and ensure that the violator is retrained prior to returning to a fall hazardous environment.

(d). Prepare, update, and review written fall protection procedures and JSAs associated with their work areas. This will occur when operating conditions change or when deficiencies in the procedures are found.

(e). Communicate the rescue plan of calling 911 should an employee sustain a fall.

(f). Maintain a JSA for fall hazards in the work area.

(g). Verify the setup of all fall protection systems to ensure they are installed in accordance with manufacturer's guidance and the appropriate ANSI Z359 for the specific system.

(h). Prior to working at height, verify authorized person training is complete and applicable fall protection and rescue procedures have been reviewed.

(i). Immediately remove from service any fall protection equipment found to be damaged, deteriorated, altered, abused, or otherwise unserviceable.

(7). Employees/Authorized Persons will:

(a). Utilize all fall protection as instructed.

(b). Maintain assigned fall protection in a clean and safe manner, free of deteriorating agents, and report any deficient equipment to their supervisor immediately.

(c). Attend all training and maintain competency in the use of fall protection.

(d). Conduct inspection of fall protection components prior to use and request assistance from the supervisor or other competent persons when the need arises.

(e). Consult with the competent person if they feel the equipment or activity is unsafe.

(f). Honestly and with good faith self-certify or take part in a weight testing program annually to ensure fitness for use. Employees who with a combined weight of their body, clothing, and attached tools may not exceed 310 lbs.

d. Policy.

(1). Fall protection shall be used for any fall hazard that is four feet or greater from the next lower level.

(2). Fall protection shall be used below four feet if fall would result in exposure to dangerous equipment that is not protected or guarded.

(3). The fall protection hierarchy of controls shall be used to determine proper fall protection for all activities in accordance with Table 2 of Z359.2.

(a). Elimination

(b). Engineering controls/Passive protection (Guardrails and floor hole covers).

(c). Active Fall Protection/PPE

1. Fall restraint

2. Fall arrest

(4). Passive Protection Systems:

(a). Guardrails:

1. A railing system shall consist of top rail, or more intermediate rails or equivalent protection.

2. Shall have a minimum vertical height of 42 inches from upper surface of top rail to floor, platform, runway, stair landing or ramp level. The top rail shall be smooth surfaced throughout the length of the railing. Reference figure 19-1.

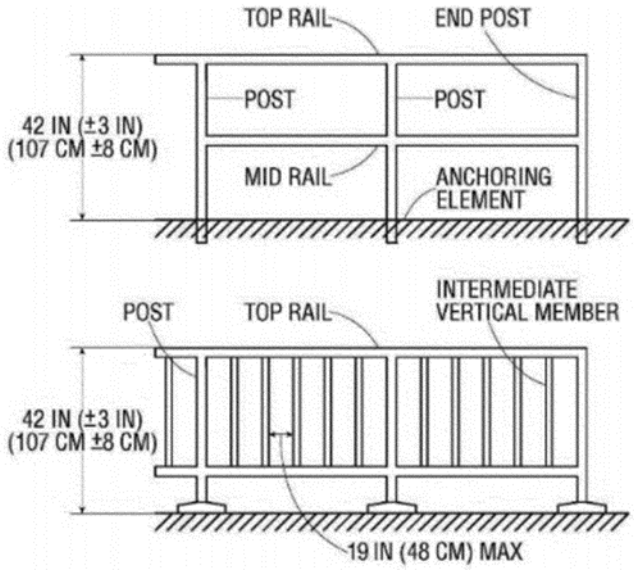
3. The rails shall withstand a minimum concentrated load of 200 pound applied in any outwardly horizontal or downward direction, at the midpoint between posts without exceeding maximum allowable deflection.

4. Guardrail systems will be surfaced to protect workers from punctures or lacerations and to prevent clothing from snagging.

5. All rails of the guardrail systems must be at least ¼ inch nominal diameter or thickness to prevent cuts and lacerations.

   a. If wire rope is used for top-rails, it must be flagged at not more than six feet intervals (1.8 meters) with high visibility material, and steel and plastic banding cannot be used as top-rails or mid-rails.

Figure 19-1. Guardrail Example.



(b). Floor hole covers.

1. Any hole two inches (5.1 cm) or larger in its least dimension on walking/working surfaces, such as floors, roofs, or other openings, shall be protected with a cover.

2. All floor hole covers shall be marked with the word “hole” or “cover” to warn employees that a floor hole exists and employees will be trained on the purpose of these words.

3. These covers will be secured to prevent inadvertent removal or dislodging.

4. Floor hole covers shall be of adequate construction to support at least twice the typical load, to include the combined weight of workers, equipment, and material.

(c). Safety nets shall conform with ANSI/ASSE A10.11:

1. No work shall be conducted utilizing a safety net until the net is installed and tested in accordance with EM 385-1-1 Chapter 21.H and ANSI A10.11.

(5). Personal fall protection systems:

(a). The full body harness shall be inspected before each use documented on the AMLD Form 4615-1, and visually inspected after each use prior to storage. Annually, the full body harness shall be inspected by a competent person other than the user (supervisor, work leader, Safety Office).

(b). Anchor points shall be on permanently fixed objects which are capable of supporting at least 5,000 lbs or two times the safety factor. Anchorages that are not engineered systems and are attached to structural member of a facility shall be approved by a qualified engineer in writing.

(c). All connecting devices must be rated to a minimum of 5,000 lbs and shall have dual locking mechanisms, these include mechanical connectors, carabiners, or any other type of approved connector.

(6). Self-Retracting Lifelines (SRL):

(a). Personal SLRs shall be mounted directly to the full body harness by following the manufacturer's recommended procedures and be inspected prior to use.

(b). Permanently mounted SLRs shall be inspected a minimum of annually by DS&T and a documented record of the inspection maintained in the tool management system.

(7). Mobile Elevated Work Platforms (MEWP):

(a). Types of MEWPS that may be found in the work area:

1. Manually propelled – require equipment or the individual to physically more it.

2. Self-propelled – this equipment is equipped with a drive system. Common examples include:

a. Articulating boom

b. Telescopic boom

c. Work assist vehicles

d. Scissor lift

(b). All personnel assigned to operate or use a MEWP will be trained on sage operation of the equipment.

(c). Retraining shall be conducted in the following circumstances:

1. Extended period without use/operating a MEWP.

2. Involved in a mishap or near miss involving a MEWP.

3. Deterioration in the operator's performance of documented misuse.

(d). Inspection criteria.

1. All MEWPs will be inspected prior to every use by operator. Any deficiencies will be noted and serious deficiencies shall be taken out of service until repaired.

2. Annual inspections will be conducted by a qualified inspector. Annual inspections will be recorded on the MEWP.

(e). All personnel utilizing a MEWP shall be tied off with personal fall protection system recommended by the manufacturer of the MEWP.

(f). MEWP operating manuals will be stored for reference on the MEWP.

(g). All gates will be closed to include chain gates secured while the equipment is in use or elevated.

(h). All personnel utilizing a MEWP shall receive fall protection training.

(i). No MEWP will be modified or altered from its original state without written permsission fromt eh manufacturer.

(j). Users will keep both feet firmly on the basket floor and never stop on/stand on the toe board or guard rails.

1. When used for accessing an elevated work area, the user shall exit the basket only through the gate.

(k). The MEWP shall only be used in the environment and conditions it was intended.

(8). Inspections:

(a). Body harness will be listed in ATICTS and SRL's in FEMS, LMP, or equivalent tracking database to ensure an annual inspection is completed.

(b). Personal fall protection systems will be inspected prior to use by the user.

(c). Semi-annually each personal fall protection system will be inspected a competent person.

(d). Annually the personal fall protection system will be inspected by a qualified person or the program administrator.

(e). Per the manufacturer's instructions, the fall protection system will be sent to the manufacturer for recertification.

(f). Inspection records will be maintained in accordance with Chapter 19-7 d (9).

(9). All employees authorized to use fall protection shall be trained on proper donning, doffing, and use of the equipment to include limitations and inspection techniques.

(10). Each work area will conduct a fall hazard assessment using a worksheet that will identify each fall hazard and determine proper fall protection means for mitigation. These will be reviewed annually by the supervisor or other designated competent person and submitted to the safety office and program administrator for review and concurrence.

(11). Any construction activity conducted through the Army Corps of Engineers shall meet the requirements of LEAD 385-1 and any additional construction specific requirements identified in EM 385-1-1.

(12). Prior to any SRL use, the user inspection shall include a visible inspection of the SLR including and damage to the cable, strap, or rope and a dynamic pull test of the SRL to guarantee brake operation, no user documentation is required prior to use inspection.

(13). Guardrail systems and other passive means of fall protection shall be the primary method of protection where possible and shall be part of future building design and alterations.

(14). If you are pregnant or are trying to become pregnant and choose to self-identify or have made public your pregnancy, you shall not be allowed to wear active fall protective equipment (No supervisor or manager will ask you if you are pregnant).

(15). The rating of fall protection if the lowest rating of any given component. So if a lanyard is rated for 400 lbs. but the harness is rated at 310 lbs. the system will be rated at 310 lbs.

(16). All employees required to use fall protection shall be required to self-certify annually their weight and shall notify their supervisor if they exceed the rating for their current fall protection so that alternative equipment can be secured if possible.

e. Training/Record Retention.

(1). Initial Training:

(a). Training will be conducted specific to general industry and tailored to incorporate the policies and requirements found within this program.

(b). Training will include fall hazard recognition and mitigation methodologies, the hierarchy of controls, components of fall protection system, proper donning and doffing techniques, the limitation of the fall protection devices, proper care and maintenance of person fall protection, and inspection procedures.

(c). Training will include a written test that will be maintained on file with the Safety Office and in the employees training records.

(d). Employees shall be trained on what to do in the event of a fall, including responsibilities of the victim and others present.

(2). Retraining:

(a). Will be conducted when an employee is transferred to a new job and training will be specific to the work area.

(b). Full retraining will be conducted when an employee is involved in a fall related mishap or is not demonstrating retention of fall safety principles and policies.

(c). Tailored retraining will occur when an employee requests additional training, or in the event of a near miss. These trainings will be to the scope of the request or specific circumstances surrounding the near miss.

(3). Records Retention:

(a). All records associated with purchase, issuance, and life cycle of the fall protection equipment shall be maintained in either written or electronic files.

(b). Written or electronic inspection records to include inspection by competent persons and the manufacturers annual and other revalidations, shall be kept on file for the life of the equipment.

(c). Record of all fall related mishaps shall be retained for no less than 3 years or until all corrective actions have been completed, whichever is longer.

(d). Program updated will be maintained with addendums or amendments as part of an annual review of the fall program. These amendments or addendums will be kept on file until obsolete or until formally added to the final program.

(e). Written certification and revalidation records of all anchor points shall be maintained by both the Safety Office and the engineering division (or retained in a shared folder accessible by both parties).

(f). The annual fall program assessment conducted by the program administrator shall be kept on file for five years and maintained associated files as a single PDF.

f. Rescue Procedures.

(1). In the event that a fall arrest occurs, all employees who are conscious and not injured will be rescued with the assistance of on-site personnel with the use of a man lift, scissors lift, elevated work platform, or ladders where feasible. Employees providing assistance must use fall protection if required. The rescue of an employee who if injured and/or unconscious will be conducted by LEAD emergency services only. Rescue should be within 15 minutes of the occurrence of a fall to minimize the risk of further injury or death due to suspension trauma. In the event of a fall, the following personnel must be notified as soon as possible:

(a). LEAD Fire Department (Dial 911)

(b). Area supervisor

(c). LEAD Safety Office at 717-267-5253

(2). At the beginning of any work activity where fall protection is an issue, risk management and rescue plans must be identified and discussed with all employees in case of a fall.

(3). All employees will be trained on self-rescue techniques and will conduct a refresher specific to self-rescue prior to the beginning of work.

(4). LEAD Fire Department personnel involved in fall rescues shall meet the requirements of NFPA 1006 and NFPA 1607.

(5). All employees involved in a fall arrest of fall will be sent for a medical evaluation to determine extent of injuries, if any.

(6). All fall protection equipment that was used to arrest a fall shall be removed from service immediately and turned in to the tool crib for replacement regardless of whether the impact indicator has triggered or not. A competent and qualified person will determine the serviceability of this equipment.

g. Continuous Process Improvement.

(1). Continuous process improvement will incorporate the ANSI Z10 model and ISO 9001 methodologies into ensuring overall compliance with fall protection requirements.

(2). Annually all fall protection systems will be inspected. And assessments will be recertified by a competent person.

(3). All anchor points will be recertified in accordance with manufacturer recommended intervals or other recognized and generally accepted good engineering practices.

(4). Near misses and employee concerns will be submitted through the HRP process and reviewed with the competent person and program administrator and corrective actions will be documented and incorporated as applicable.

(5). Building renovations and expansions will include provisions for adding passive fall protection systems and new buildings will all incorporate section 1604.11 of UFC 3-301-10 with an emphasis on meeting the ANSI Z359 hierarchy of controls.

(6). Conduct an annual review of emergent policies, regulations, and standards. New emergent guidance shall be incorporated into the existing program as an amendment until the next formal program update (3 – 5 year interval).

(7). Review and modify training materials on an annual basis or as amendments are added so to shall they be incorporated into the training.

(8). Conduct a data/trend analysis to determine any potential areas where compliance is lacking or fall hazards are not being properly mitigated on an annual interval and shall look at the past 2 years of

inspections, mishaps, near misses, and any other relevant data stream that may result in identification opportunities for improvements or threats to the program's success.

19-8. Fall Arrest System Rescue Procedures. In the event that a fall arrest occurs, all employees who are conscious and not injured will be rescued with the assistance of on-site personnel with the use of a man lift, scissors lift, elevated work platform, or ladders where feasible. Employees providing assistance must use fall protection if required. The rescue of an employee who is injured and/or unconscious will be conducted by LEAD emergency services only. Rescue should be within 15 minutes of the occurrence of a fall to minimize the risk of further injury or death due to suspension trauma.

a. In the event of a fall, the following personnel must be notified as soon as possible:

(1). LEAD Fire Department (Dial 911)

(2). Area supervisor.

(a). The supervisor will treat this as an accident and report it in accordance with accident reporting procedures outlined in Chapter 3.

(3). LEAD Safety Office at 717-267-5253

a. At the beginning of any work activity where fall protection is an issue, risk management and rescue plans must be identified and discussed with all employees in case of a fall.

b. All employees involved in a fall arrest or fall will be sent for a medical evaluation to determine extent of injuries, if any.

c. All fall protection equipment that was used to arrest a fall shall be removed from service immediately and turned in to the tool crib for replacement regardless of whether the impact indicator has triggered or not. A competent and qualified person will determine the serviceability of this equipment.

19-9. Inspection and Maintenance. To ensure fall protection systems and devices are ready and able to perform their required tasks they will be inspected and properly maintained. At a minimum, the following items will comprise the basic requirements of the inspection and maintenance program:

a. Equipment manufacturer's instructions will be incorporated into the inspection and preventive maintenance procedures. Body harnesses will be listed in ATICS and SRL's in FEMS, LMP, or equivalent tracking database to ensure an annual inspection is completed.

b. All fall protection equipment will be inspected prior to each use, and documented inspections performed at intervals not to exceed twelve months, or in accordance with manufacturers.

c. No maintenance shall be performed on fall protection equipment without the manufacturer's documented approval.

Chapter 20

Confined Space Program

20-1. Purpose. Eliminate or significantly reduce hazards associated with the entrance into confined spaces. The atmosphere in a confined space may be extremely hazardous because of the lack of natural air movement. This characteristic of confined spaces can result in oxygen deficient atmospheres, flammable atmospheres, and/or toxic atmospheres.

20-2. Definitions.

a. **Attendant:** The individual stationed outside the permit spaces who monitors the qualified entrant person, which has specific duties and meets training requirements as indicated in this chapter.

b. **Authorized Entrant**: An employee who is authorized by the employer to enter a permit space and has specific duties and training requirements as indicated in this chapter.

c. **Confined Space:** An area large enough and so configured that a member can bodily enter and perform assigned work but which has limited or restricted means for entry and exit and is not designed for continuous human occupancy.

d. **Double block and bleed:** The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening locking and tagging a drain or vent valve in the line between the two closed valves.

e. **Engulfment:** The surrounding and effective capture of a person by a liquid or a finely divided solid substance that can be aspirated to cause death by filling or plugging respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

f. **Entry Permit:** The document that is provided by LEAD to allow and control entry into a permit space.

g. **Entry Supervisor:** The person 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. This person has specific duties and training requirements.

h. **Immediately Dangerous to Life or Health (IDLH):** An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual’s ability to escape from a dangerous atmosphere.

i. **Lower Explosive Limit (LEL):** The lowest concentration (or lowest percentage of the substance in air) that will produce a flash of fire when an ignition source is present.

j. **Permissible Exposure Limit (PEL):** The maximum permitted 8-hour time-weighted average concentration of an airborne contaminant.

k. **Permit Required Confined Space:** A confined space that has one or more of the following characteristics:

(1). Contains or has a potential to contain a hazardous atmosphere.

(2). Contains a material that has the potential for engulfing an entrant.

(3). Has an internal configuration 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.

l. **Qualified Person:** An employee who possesses a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated his or her ability to solve or resolve problems relating to the subject matter, the work, or project.

m. **Short-Term Exposure Limit (STEL):** The concentration to which it is believed that workers can be exposed continuously for a short period of time (15 minutes) without suffering from irritation, chronic or irreversible tissue damage, or narcosis of a degree sufficient to increase the likelihood of accidental injury, impairment of self-rescue, or the material reduction of work efficiency, without exceeding the daily PEL.

n. **Threshold Limit Value (TLV):** The suggested limit for workplace exposures. The air concentration to which a worker can be exposed for five 8-hour days each week throughout a workers life without suffering adverse effect.

o. **Upper Explosive Limit (UEL):** The highest concentration (or highest percentage of the substance in air) that will produce a flash of fire when an ignition source is present.

20-3. Responsibilities.

a. The Safety Manager shall establish and conduct a complete and comprehensive Confined Space Entry Program to meet the purpose, intent, and mandatory requirements and direct the following actions:

(1). Appoint a Confined Space Entry Manager and ensure this person meets the requirements for certification.

(2). Authorize the initial and recurring formal training required for the Confined Space Entry Manager and other personnel to administer an effective Confined Space Entry Program.

b. The Confined Space Entry Manager shall:

(1). Establish and administer the program as required in this regulation.

(2). Establish procedures for confined space testing, treatment, and certification prior to entry or work.

(3). Ensure that the necessary equipment, in sufficient quantities to meet the requirements of LEAD operation, is procured, maintained, and calibrated.

(4). Ensure that all confined space entry personnel are properly trained, qualified, and certified. Confined space entry personnel must know what personal protective equipment is required in relevant emergency procedures.

(5). Ensure that all personnel that work in or have employees that work in confined spaces are trained and aware of the hazards of confined spaces. Coordinate required training between the Safety Office and directorates.

(6). Evaluate confined or enclosed spaces and prepare, issue, and post confined space entry signs for these spaces.

(7). Establish requirements and procedures for cleaning, ventilating, inerting or other treatments, which may be used in confined or enclosed spaces.

(8). Monitor operations and ensure that proper procedures are followed prior to commencement of, during, and after hot work in, on, or adjacent to confined/enclosed spaces. Monitor welding operations to ensure compliance with requirements.

(9). Monitor operations to determine that personnel do not perform hazardous work in confined/enclosed spaces alone or unobserved.

(10). Monitor operations and ensure that procedures are established for emergency rescue and medical treatment, and appropriate personnel are familiar and trained in rescue procedures.

(11). Establish procedures to stop work and evacuate personnel from a space or location in the event an unsafe condition relating to confined space entry is detected or suspected.

(12). Ensure that the appropriate director is notified when any hazardous situation is detected which causes work stoppage and/or personnel evacuation.

(13). Ensure that confined space entry records are maintained for a minimum of one year.

(14). Conduct an annual program review.

(15). Maintain a list of known confined spaces on the installation.

c. Entry Supervisors will:

(1). Establish procedures to ensure that no space under their control, which has been identified as a confined space, is entered until evaluated by confined space entry personnel.

(2). Know the hazards that may be faced during entry, including information on the mode of exposure.

(3). Be able to recognize the signs and symptoms of exposure.

(4). Understand the consequences of exposure to the hazards.

(5). Verify, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

(6). Terminate the entry and cancel the permit as required.

(7). Verify that rescue services are available and that the means for summoning them are operable.

(8). Know the procedures and duties for authorized attendant and entrant.

(9). Mandate that personnel required to work in confined spaces receive training. Ensure confined space entry meter is operating properly and has a valid four gas calibration (bump test). Inspect all tools and equipment to be used while performing work within the confined space.

(10). Ensure all entry personnel have valid AMLD Form 3645 Confined Space Work Card.

(11). AMLD Form 3666-R Confined Space Entry Permit.

(12). Ensure the attendant is on hand.

(13). Ensure portable confined space entry sign and permit are posted.

(14). Perform and document initial atmospheric test before entrance to the confined space is made. The test performed will include those for oxygen content, flammability, carbon monoxide, hydrogen sulfide, and toxic materials.

(15). Perform continuous atmospheric testing while employees are working within the confined space.

(16). Ensure confined space is constantly ventilated when necessary.

(17). Provide the Safety Office and their supervisor with a completed copy of confined space entry permit.

(18). Provide all necessary personal protective equipment and ensure it is used. Minimum equipment requirements are:

(a). Atmospheric testing and monitoring equipment.

(b). Ventilating equipment.

(c). Communication equipment.

(d). Personal protective equipment.

(e). Lighting equipment.

(f). Barriers and/or signs for the protection of employees.

(g). Equipment for entry and exit.

(h). Fall arrest equipment (if needed).

(19). Forward all completed Confined Space entry permits to the Safety Office upon completion of work.

d. Authorized Entrant person will:

(1). Know the hazards that may be faced during entry, including information of the mode, signs or symptoms, and consequences of the exposure.

(2). 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.

(3). Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation or detects a prohibited condition.

(4). Exit from the permit space as quickly as possible whenever an order to evacuate is given by the attendant or the entry supervisor; when the entrant recognizes any warning sign or symptom of exposure to a dangerous situation; when entrant detects a prohibited condition, or an evacuation alarm is activated.

e. Attendant will:

(1). Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

(2). Perform continuous atmospheric testing of the lower, middle, and upper zones of the space while employees are working within the confined space.

(3). Know the hazards that may be faced during entry, including information of the mode, signs or symptoms, and consequences of the exposure.

(4). Continuously monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space.

(5). Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants in permit spaces is accurate.

(6). Maintain constant communication (visual or speech) with employees on the inside of a confined space. The use of intrinsically safe radios is required when employees are outside of visual or voice range.

(7). Notify the Fire Department prior to entry into a confined space and after exiting (completion of work). Note that no entry shall be made if the fire department is unavailable for standby for the confined space entry. If entry has already begun, and the fire department is summoned to another event and is no longer available to stand by for the confined space entry, then notification shall be made by the fire department to the attendant and the confined space entry must be terminated. Provide the Fire

Department with the attendant's phone number and continuously monitor this phone number for changes in the Fire Departments availability.

(8). In the event of emergency, contact the Fire Department by radio or dial 911.

(9). Order an evacuation if a prohibited condition is detected, behavioral effects of hazards are being shown by entrants, a dangerous situation outside the space is detected, or if the attendant is unable to perform all the required duties.

(10). Warn unauthorized persons that they must stay away from the permit space.

(11). Under no circumstances will the attendant enter the confined space until help arrives, and then only with the proper protective equipment and with the approval of the Fire and Emergency Services Division.

f. Dunham Army Health Clinic will:

(1). Conduct medical surveillance on employees assigned to jobs including confined space work. The employee will receive pre-placement, annual, and termination examinations.

(2). The medical examination will:

(a). Ensure the worker's ability to use a negative and positive pressure respirator.

(b). Ensure the worker's ability to see and hear warnings, such as flashing lights, buzzers, and sirens.

(c). Ensure the employee's general physical ability to carry out these assigned duties in confined spaces according to the employee's job description.

g. Industrial Hygienist will:

(1). Provide technical consultative services on work practices, engineering controls, and personal protective equipment.

(2). Advise employees as to the next step to follow when entry conditions into a confined space do not meet standards.

h. CPAC will:

(1). Assist supervisors to negotiate any personnel problems resulting from this program.

(2). Assist supervisors in taking appropriate action when employees fail to comply with this program.

i. Fire and Emergency Services Division will:

(1). Receive calls and provide appropriate emergency response concerning confined space accidents.

(2). Ensure all rescue team personnel receive ongoing training in confined space accident response.

(3). Provide annual training to fire department employees designated to work in confined space rescue, to ensure they acquire and demonstrate the knowledge and skills necessary for safe performance of their duties. All training provided to personnel will be documented in writing, and maintained for inspection and verification. Ensure all personnel involved in confined space entry review this regulation annually and document the review as part of refresher training.

(4). Telephone the attendant anytime that rescue services are unavailable.

j. The Director of Contracting (DOC) will:

(1). Ensure solicitations and contracts for work in areas that have confined spaces, include a confined space program.

(2). Inform contractors performing work in permitted required spaces:

(a). That the workplace contains permitted-required spaces and entry is allowed only through compliance with a permit space program, which meets OSHA and LEAD requirements. A copy of the contractor's Confined Space Program shall be provided for review by the LEAD Safety Office.

(b). That they are responsible for conducting required training, performing occupational health surveillance, and providing personal protective equipment for their personnel.

(c). Of the requirement to notify the Fire and Emergency Services Division before entry into a permit required confined space, and when the confined space entry is complete.

k. Directors involved in preparing or administering contracts involving confined spaces will:

(1). Inform the Safety Office of any construction, maintenance, or service contracts that will involve entry into permit required spaces. Include confined space requirements in contracts as appropriate.

(2). The COR will work with the contractor and Safety Office to review the contractor's confined space program and ensure adherence to all Safety Office guidance during entry.

20-4. Posting of Signs.

a. Entrances to all readily accessible confined spaces will be posted as necessary to prevent unauthorized, inadvertent, or unsafe entries. Placement of signs should be determined during the confined space inventory.

b. Ensure that signs are posted near the entrance of all tanks, boilers, or other confined areas or spaces that may contain toxic or oxygen deficient atmospheres.

c. To prevent unauthorized or inadvertent entries into any confined space where work is in progress, the area should be posted as warranted until the operations have been completed.

20-5. Procedures.

a. No person will enter any space which may contain less than 19.5 percent (%) oxygen or more than 23.5 percent (%) oxygen, or which may contain toxic or explosive gases above 10 percent (%) of the lower explosive limit, dusts or vapors, until the entry and standby person has inspected and tested the area and certified that the hazardous atmosphere has been reduced to an acceptable level.

b. All confined spaces will be assumed "unsafe" until determined "safe." If the space is determined "unsafe," entry will be prohibited until precautions prescribed by the team are initiated.

c. Entry into a permitted space will not be for more than one work shift or exceed 8 hours, unless authorized by the Safety Office.

WARNING

UNDER NO CIRCUMSTANCES WILL AN UNPROTECTED, UNTRAINED PERSON ENTER A SPACE TO ATTEMPT TO RESCUE A PERSON WHO MAY BE OVERCOME FOR ANY REASON. RESCUE UNDER THESE CONDITIONS WILL NOT BE ATTEMPTED EXCEPT BY THE FIRE DEPARTMENT.

d. To facilitate non-entry rescue, retrieval systems, or methods shall be used whenever an authored 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, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of entrant. 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). A lifeline and, if needed, a supplied air respirator will be worn by trained personnel. An attendant will be positioned at the scene. The attendant will be trained, equipped and prepared to assist the worker from the confined space in the event of an emergency.

e. Inerting will be done only in emergency situations and will be supervised by the confined space supervisor.

f. Arrangements for routine confined space entry services after regular work hours or on weekends or holidays will be made with the confined space entry manager at least 8 hours in advance.

20-6. Administrative and Record Keeping Requirements.

a. The confined space entry permit will be maintained for all tests and inspections of confined or enclosed spaces.

b. All confined space entry permits will be maintained by the Safety Office for a period of one year from the date of the permit.

20-7. Evaluation of Confined Space Hazards. Many factors must be evaluated prior to entry into, or work in or on a confined or enclosed space. Such evaluations will include, but not necessarily be limited to the following considerations:

a. The contents and/or previous contents of the space that may result in the presence of flammable, toxic or oxygen depleted, or enriched atmospheres.

b. The location and configuration of the space includes restricted access, obstructions, remoteness, etc., which may inhibit or interfere with movement, ventilation, rescue efforts, or firefighting efforts.

c. The types of operations, which are conducted within the space, particularly those which by the very nature of the process produce toxic materials, oxygen depletion or enrichment, or ignition.

d. Fixtures, devices, or equipment within or next to spaces which may create or contribute to hazardous conditions including piping systems, conduits, ducts, machinery, or pressurized lines. For example, welding next to a vent pipe system that contains fuel needs to be checked prior to the welding operation.

e. The presence of other hazards such as slippery surfaces, deteriorated or unstable ladders, irritant or caustic materials, etc.

f. The boundary spaces and their contents to ensure that fire or explosion will not be caused in these spaces by the operation to be conducted.

20-8. Training.

a. Only persons who have completed a program of instruction, approved by the Safety Office, will be allowed to serve as supervisors in charge of confined space entry, entrants, attendants, or to certify a space as safe for entry. Training shall be provided to each affected employee:

(1). Before the employee is first assigned duties under this chapter and when there is a change in assigned duties.

(2). Whenever there is a change in permit space operations that presents a hazard for which an employee has not been trained.

(3). Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required in this section or that there are inadequacies in the employee's knowledge or use of these procedures.

b. The training should establish employee proficiency in the duties required by this chapter and should introduce new or revised procedures, as necessary, for compliance with this chapter.

c. General training: All employees who will enter confined spaces will be trained in entry procedures. Personnel responsible for supervising, planning, entering or participating in confined space entry will be adequately trained in their functional duties prior to any confined space entry. Training will include:

(1). Explanation of the general hazards associated with confined spaces.

(2). Discussion of specific confined space hazards associated with the facility, location, or operation.

(3). Reason for, proper use, and limitations of PPE and other safety equipment required for entry into confined spaces.

(4). An explanation of permits and other procedural requirements for conducting a confined space entry.

(5). A clear understanding of what conditions would prohibit entry.

(6). How to respond to emergencies.

(7). Duties and responsibilities as a member of the confined space entry team.

(8). Specific training for atmospheric monitoring to include proper use of the equipment, knowledge of calibration, knowledge of sampling strategies, and techniques and knowledge of PELs, TLVs, LELs, UELs, etc.

(9). Procedures for summoning rescue services.

(10). Proper utilization of equipment used for communicating with entry and emergency personnel.

d. Documentation of training: All confined space training for entry supervisors, entrants, attendants, testers and (or) monitors will be certified, documented, and kept up-to-date. Certification cards (AMLD FORM 3645 Confined Space Work Card) will be issued upon completion of training.

Chapter 21

Radiation Safety

21-1. Purpose. This regulation establishes policy and mandatory guidance for the acquisition, possession, use, storage, handling, maintenance, transport, and disposal of radioactive material, equipment containing radioactive material, and ionizing and hazardous non-ionizing radiation producing devices. In addition, this regulation prescribes policy, procedure, and responsibility for the control of occupational exposure to ionizing radiation to ensure that radiation exposure of personnel is maintained as low as is reasonably achievable (ALARA). This includes radioactive material, as well as x-ray, lasers, and radiofrequency devices.

21-2. References. Refer to Department of the Army Pamphlet DA PAM 385-24, The Army Radiation Safety Program.

21-3. Explanation of Abbreviations and Terms.

a. **Accessible Emission Limit (AEL):** The maximum accessible emission level permitted within a particular laser class. AEL = MPE x (area of limiting aperture).

b. **Activity (Radioactivity):** The number of nuclear transformations occurring in a given quantity of material per unit time. The unit of measurement is the curie (Ci) or Becquerel (Bq).

c. **ADR:** Automated Dosimetry Report; the computerized report provided by the USADC that shows a record of individual radiation exposure.

d. **ALARA:** An acronym for “As Low As Reasonably Achievable” refers to an operating philosophy in which occupational radiation exposures are reduced as far below specified limits as is reasonably achievable.

e. **ARA:** Army Radiation Authorization.

f. **ARP:** Army Radiation Permit.

g. **Bioassay:** The analysis of excreta, urine, blood samples, whole body counting, or other means of collecting biological data to determine internal radiation exposures.

h. **Byproduct Material:** Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

i. **Calibration:** The determination of a measuring instruments variation from a standard which is traceable to the National Bureau of Standards to ascertain necessary correction factors or acceptability of detection capability within a specified error range.

j. **Commodity (Radioactive):** An item of government property composed in whole or in part of a radioactive material to which a National Stock Number (NSN) or part number has been assigned. A radioactive commodity is any item in the DOD Supply System that contains radioactivity equal to or greater than quantities listed in 10 CFR 20, or contains a specific activity greater than 0.002 microcuries per gram of radioactive material (49 CFR) and is license exempt.

k. **Decontamination:** The reduction or removal of radioactive contamination from any given surface.

l. **Dose:** A general term denoting the quantity of radiation or energy absorbed.

m. **Dose Equivalent:** The product of absorbed dose, quality factor, and other necessary modifying factors used to obtain an evaluation of the effects of radiation received by exposed persons so that the different characteristics of the exposure are taken into account.

n. **Dosimeter:** A device used to detect and measure an accumulated dose of radiation, e.g., personnel dosimetry badge or self-reading electronic dosimeter.

o. **Exempt Laser System (ELS):** A laser system that has been given an exemption from the federal standard by an agency of the Department of Defense whose use and disposal are strictly controlled. See AR 11-9.

p. **Exposure (Occupational):** Exposure to ionizing radiation incurred by an employee whose duties may result in such exposure. It does not include exposures that are incident to medical diagnosis, therapy, or background radiation.

q. **Internal Radiation Hazard:** Exposure resulting from deposition of radioactive material within the body through inhalation, ingestion, or absorption through the skin.

r. **Ionizing Radiation:** Electromagnetic or particulate radiation capable of producing ions, directly or indirectly in its passage through matter. For the purpose of the regulation, alpha and beta particles, gamma rays, x-rays, and neutrons are examples of ionizing radiation. This type of radiation does not include radio waves, infrared, visible, or ultraviolet light, or lasers.

s. **LASER:** Light Amplification by Stimulated Emission of Radiation.

t. **Laser Safety Officer (LSO):** An individual designated by the major subordinate Commander/Chief and approved by the AMCOM RSO; who is qualified by virtue of education and/or experience to make informed judgments regarding safety control measures needed for laser operations. An LSO will be appointed when a facility possesses a Class 3 or Class 4 laser or a Class 1 enclosed laser or laser system. The LSO can be the Local RSO if so designated in writing.

u. **Laser System (LS):** An assembly of electrical, mechanical, and optical components that include one or more lasers. This definition includes weapon systems for which there are individual development or acquisition efforts by separate developers to produce component laser devices. For example, a tank equipped with a laser range finder is a “laser system.”

v. **Leak Test:** A determination of the integrity of a sealed source encapsulation by measurement of the amount of radioactive material escaping the encapsulation.

w. **Maximum Permissible Exposure (MPE):** The level of laser radiation to which a person may be exposed without hazardous effect or adverse biological changes in the eye or skin.

x. **Nominal Ocular Hazard Distance (NOHD):** The NOHD for direct intrabeam viewing is the minimum distance beyond which an unprotected individual may stand and view the beam and can be exposed repeatedly without injury, provided that one does not look at the laser with unfiltered optical devices. When viewing the collimated beam with a telescope or any other optically magnifying device, the hazardous range is greatly increased.

y. **OSL:** Optically Stimulated Luminescence Dosimeter.

z. **Permissible Exposure Limit (PEL):** The maximum level expressed in absorption rate or derived equivalent power density, electric field strength, or magnetic field strength to which an individual may be exposed that will not cause detectable bodily injury according to present medical knowledge.

aa. **Power Density:** The amount of power per unit area in an electromagnetic field, usually expressed in mW/cm^2

bb. **Rad:** The unit of absorbed dose equivalent to 0.01 J/Kg in any medium.

cc. **Radioactive Material:** Any material or combination of materials that emit ionizing radiation. This includes natural elements such as radium and accelerator-produced radionuclides.

dd. **Radiation Producing Device:** Materials, equipment, or devices which generate or are capable of generating ionizing radiation including (1) naturally occurring radioactive material, (2) by-product materials, (3) source materials, (4) special nuclear materials, (5) nuclear reactors, (6) radiographic and fluoroscopic equipment, (7) particle generators and accelerators, and (8) radiofrequency generators such as klystrons and magnetrons which produce x-rays.

ee. **Rem:** The special unit of dose equivalent numerically equal to the absorbed dose in rad multiplied by the quality factor and any other necessary modifying factors.

ff. **Sealed Source:** Any radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent the release or dispersal of such radioactive material under the most severe conditions that may be encountered in normal use and handling.

gg. **Source Material:** Uranium or thorium, or any combination thereof, in any physical or chemical form. It also includes any ore that contains by weight one-twentieth of one percent (0.05%) or more of uranium, thorium, or any combinations thereof. Source material does not include special nuclear material.

hh. **Special Nuclear Material:** Plutonium, Uranium 233, uranium enriched in the isotope 235, and other material the NRC determines to be special nuclear material, or any material (except source material) artificially enriched by and of the foregoing.

ii. **Specific Absorption Rate (SAR):** The time rate at which RFR energy is imparted to an element of biological body mass. It is usually measured in W/kg or normalized to incident power density in W/kg/mW/cm^2

jj. **USADC:** US Army Dosimetry Center.

21-4. Policy. The Commander administers the Radiation Protection Program through the LEAD Radiation Safety Officer (RSO) and is committed to the operating philosophy of maintaining occupational radiation exposure ALARA.

a. Radioactive sources and radiation-producing devices will be used only when it is determined they are necessary for the accomplishment of the assigned mission and practical substitutes do not exist.

b. Radiation Safety Programs will be established by each organization or activity to ensure adequate facilities, equipment, procedures, controls, and training are commensurate with the radioactive material or radiation-producing device used. These programs will be consistent with federal, DA, and AMC regulations and directives and will ensure that exposures to ionizing radiation are maintained As Low As Reasonably Achievable (ALARA). Under the provisions of this regulation, the ALARA concept will be implemented by guidelines, written procedures, review and maintenance of program records, and a periodic review of the performance of the program as is specifically outlined in Title 10 Code of Federal Regulations (CFR) Part 20.

c. Government-owned contractor-operated (GOCO) operations and contractors utilizing or possessing radioactive material or radiation-producing devices will maintain Radiation Safety Programs and/or policies consistent with this regulation as allowed by existing contract between the US Government and the installation contractor. This regulation in no way obligates the US Government for any liability to contractor personnel for any adverse health effects.

21-5. Responsibilities.

a. LEAD Commander will:

(1). Be responsible for the LEAD Radiation Safety Program.

(2). Appoint, in writing, a Radiation Safety Officer (RSO), Laser Safety Officer (LSO), Radio Frequency Safety Officer (RFSO) designee, as applicable, and ensure designee is trained to a level commensurate with the scope and responsibilities in DA PAM 385-24 para 1-4 k.

(3). Establish a Radiation Safety Committee (RSC). The committee will meet annually or when directed by the chair.

(4). Discharge those duties through the organizations listed below.

b. LEAD RSO will:

(1). Implement and administer the LEAD Radiation Safety Program.

(2). Advise the Commander, LEAD, and RSC on the status of compliance with NRC licenses and ARAs.

(3). Provide technical guidance and assistance to ensure compliance with federal and DA regulations and directives.

(4). Perform radiation surveys as required by NRC license, ARAs, ARPs, federal and Army regulations, and directives.

(5). Ensure the proper issuance, usage, and evaluation of personnel dosimetry to monitor radiation exposures.

(6). Maintain copies of all NRC licenses, ARAs, and ARPs covering the possession, use, or storage of ionizing radiation sources at LEAD.

(7). Ensure radiation workers receive radiation safety training commensurate with the hazards experienced in the work place.

(8). Maintain an inventory of radioactive material and radiation-producing devices at LEAD. Obtain copies of tenant and contractor activities inventories and provide to LEAD Security, Fire Department, and other appropriate LEAD offices/directorates.

(9). Provide staff review and concurrence on local regulations, SOPs, and policies relating to radiation safety.

(10). Maintain the individual and embryo exposure record with the associated NRC license until the license is terminated and shall ensure the declared employee receives a copy of the individual/embryo monitoring results.

c. Directorate of Supply and Transportation (DS&T) will:

(1). Coordinate supply management actions as necessary to ensure the same national stock numbers will not apply to radioactive and nonradioactive items in the Federal Supply System, or to radioactive items having the same functional task but possessing different radionuclides.

(2). Establish and maintain appropriate data to identify applicable items as radioactive. Incorporate radioactive identification data, such as Special Control Item and Demilitarization codes, with item management data and disseminate through the supply cataloging system.

(3). Issue instructions for maintenance, rebuild, demilitarization and disposal of unwanted radioactive items of issue.

(4). Ensure adherence to 10 CFR Part 20.1901,1904,1905 for marking and labeling requirements in changes to specifications and drawings for radioactive commodities and components.

(5). Maintain accountability of LEAD managed radioactive items of issue to include annual inventories to ensure that possession limits prescribed by NRC license and ARAs are not exceeded in CONUS supply.

(6). Ensure specific instructions, procedures, and warnings on handling, storing, and disposal of radioactive commodities are incorporated into technical publications and other appropriate publications

d. LEMC will support the LEAD Radiation Safety Program by accomplishing the following:

(1). Ensure radiation protection records are maintained in accordance with appropriate federal, Army, and AMCOM regulations.

(2). Ensure accidents, incidents, injuries involving radiation (ionizing or nonionizing), overexposure of personnel, and loss of radiation sources are investigated, evaluated, documented, and reported in accordance with federal, Army, AMC, and local regulations.

(3). Coordinate and prepare AMCOM applications, renewals, and amendments to NRC licenses and ARAs. Provide guidance and review in preparation and submission of contractor requests for ARAs.

(4). Ensure radioactive material movement, shipments, and receipt functions are conducted in accordance with federal, Army, and AMCOM regulations.

(5). Coordinate the consolidation of radioactive waste disposal at Redstone Arsenal. Provide guidance to waste generators concerning packaging for storage pending disposal. Request disposal instructions from the US Army Joint Munitions Command (JMC), Rock Island, IL.

(6). Provide annual report of radiation exposures to individual radiation workers.

(7). Provide information regarding the prenatal exposure risks and concerns to the developing embryo or fetus to females occupationally exposed to ionizing radiation (NRC Regulatory Guide 8.13).

e. Tenant Commanders using radioactive materials or radiation-producing devices will: Develop and implement a Radiation Safety Program in accordance with applicable federal and Army regulations and directives.

f. Those programs operating independently of the LEAD program as outlined and agreed to by Memorandum of Understanding (MOU) will assume responsibility for their programs.

21-6. General.

a. Training:

(1). Personnel will receive initial and periodic training on radiation safety commensurate with their duties. Some NRC licenses contain specific training requirements.

(2). RSOs and alternate RSOs will receive a minimum of 24 hours of training in radiation safety every 2 years.

b. Annual audit: Annually evaluate the local radiation safety program using the checklist in Appendix A (NOTE: GOCO installations may use equivalent checklists or written methods to satisfy the annual audit requirement). External audits/inspections can also meet the intent of this paragraph. External audits/inspections might only evaluate a portion of the program. If so, the remainder of the local radiation safety program will require annual audit.

c. Radiation Safety Committee (RSC).

(1). For LEAD, the Commander will chair the quarterly RSC meeting. The LEAD RSO will chair all other working RSC meetings.

d. Employees who have self-declared in accordance with chapter 1-5 of this program shall be afforded the following protection. The maximum annual dose shall be no greater than 0.5 REM and a monthly dose not to exceed 0.1 REM. The declared employee will be issued an individual monitoring device to be used at all

times where there is potential for Radiation exposure. The monitoring results will be retained for the duration of the NRC license in the employee's personal medical record at the LEAD clinic. Embryo exposure records and a copy of the monitoring results will be provided to the declared employees.

21-7. Ionizing Radiation (Including Radioactive Waste) Procedures.

a. Use:

(1). Operations that have been approved to use and possess radioactive material or radiation-producing devices under an AMCOM NRC License, or ARA (Army Radiation Authorization) will comply with all conditions of the appropriate license and authorization, as appropriate.

b. Receipt, Shipment, Transfer, and Turn-In of Radioactive Material and Radioactive Waste:

(1). The LEAD RSO or his or her designee will maintain supervisory control for monitoring radioactive material packages IAW Department of Transportation (DOT), NRC and other appropriate regulations and directives.

(2). The Director of Supply and Transportation, LEAD will notify the LEAD RSO in advance of anticipated shipments and receipts of radioactive material.

c. Incoming radioactive material/devices will be checked for damage prior to storage or use. Damaged and/or leaking shipments will be reported to the LEAD RSO. Individuals receiving radioactive packages will contact the LEAD RSO for instructions when the package is to be opened. The LEAD RSO or his or her designee will:

(1). Conduct a radiation survey and wipe test on the package as appropriate.

(2). Complete a radioactive material receipt document.

d. Those activities having dedicated RSOs, i.e., US Army Test Measurement and Diagnostic Equipment Activity, Defense Logistics Agency, Missile and Space Intelligence Center, will be notified for specific guidance for disposition of packages.

e. A Radioactive Material Movement Form completed by the LEAD RSO or his or her designee will normally accompany a shipment of radioactive material. This form will contain radiation survey information, packaging and labeling instructions, and will be part of the shipping record.

f. A Radioactive Material Movement Form completed by the LEAD RSO or his or her designee will accompany turn-in of radioactive material and radioactive waste. The LEAD RSO or his or her designee will inspect all radioactive material and radioactive waste and provide specific handling and/or packaging instructions as appropriate.

g. On-post movement of radioactive material will normally be accomplished by government vehicle. The radiation dose rate will be less than 2 milliroentgen per hour in any occupied area of a vehicle.

h. Unless prohibited by an NRC license, radioactive material may be moved in packages not approved by DOT if the move is within installation boundaries and under the immediate supervision of the LEAD RSO or his or her designee.

21-8. Emergency Procedures.

a. Radiation incidents/accidents as defined by DA PAM 385-24 will be reported to the AMCOM RSO and followed by the appropriate investigation and reporting procedures.

b. The following will apply to any event where a radioactive source is damaged or is suspected of leaking:

(1). Evacuate all personnel not directly involved in control of contamination and cleanup of the area.

(2). Turn off all radiation producing devices and ventilation equipment if airborne contamination is known or suspected.

(3). Secure the area to prevent unauthorized entry.

(4). Contact the LEAD RSO and emergency response personnel immediately.

(5). Personnel with minor wounds will be decontaminated prior to leaving the controlled area. In the event the individual must be transported immediately for medical treatment, the person will be accompanied by the LEAD RSO or other designated individual to provide continued monitoring and decontamination.

(6). Decontamination of personnel and property will be accomplished under the supervision of the LEAD RSO or other designated individual prior to release in accordance with current established permissible contamination limits.

c. In the event of a fire or explosion, paragraph (2)(a) through (f) applies in addition to the following:

(1). Personnel at the scene will be moved up wind from the source taking all necessary precautions to avoid exposure to potential airborne contaminants.

(2). If possible, remove all radioactive sources and devices from the area.

d. Exposure of Personnel:

(1). The LEAD RSO will be notified immediately of any known or suspected overexposure, either external or internal, that is in excess of current radiation exposure criteria. The LEAD RSO will investigate reports of overexposure and the individual referred to the appropriate medical facility for evaluation.

(2). Any known ingestion, inhalation, or absorption of radioactive materials will be treated as an emergency. The Public Health Command will be notified for immediate investigation of the incident. Radiological first aid will be administered as necessary. Arrangement for bioassay will be made by the Public Health Command in consultation with the LEAD RSO. Upon evaluation, the LEAD RSO will provide consultative services to medical personnel.

(3). Clinical management of overexposures will be the responsibility of the Public Health Command. The LEAD RSO will provide consultative services to medical personnel.

21-9. Laser Radiation Protection Procedures.

a. Requirements: Fundamental safety requirements for laser systems, facilities, and operations are based on hazard classifications as defined in ANSI Z136.1 (16 Mar 2007), American National Standard for the Safe Use of Lasers. The full extent of control measures required must be determined on a case-by-case basis with consideration given to the hazard classification of the device, the environment in which it will be used, and the personnel associated with the laser operation.

b. Laser Classifications: The ANSI Z136.1(16 Mar 2007) American National Standard for the Safe Use of Lasers will be used to derive the classification for Class 1, Class 2, Class 3 and Class 4 lasers.

c. Laser Personnel Categories:

(1). Incidental Personnel: Incidental personnel are those individuals working in an area whose work makes it unlikely they will be exposed to laser energy sufficient to damage the eyes. The local LSO will be responsible for identifying and placing personnel in this category.

(2). Laser Personnel: Laser personnel are those individuals who work routinely in laser environments and are identified as authorized operators. Engineering controls or administrative procedures, or both, ordinarily protect these individuals.

d. Medical Surveillance Program.

(1). Vision/ocular assessments are not required for personnel using Class 1, Class 2, Class 2a, or Class 3a lasers and laser systems. Routine vision screening for employment purposes may be required in accordance with Occupational Health guidelines.

(2). Vision/ocular assessments for personnel using Class 3b or Class 4 lasers and laser systems will be implemented using Personnel Categories and their specific requirements as follows:

(a). Laser Workers: Individuals who routinely work in laser environments and are identified as authorized operators by SOP for Class 3b or Class 4 laser operations will receive pre-placement and termination employment assessments. Pre-placement and termination assessments will follow protocol as determined by Occupational Health guidelines.

(b). Incidental Workers: Personnel working in an area whose work makes it unlikely that they will be overexposed to laser energy sufficient to damage their eyes or skin. Authorization for placing personnel in this category will be identified in the unit's SOP. These individuals will receive pre-placement and termination of employment assessments following Occupational Health guidelines.

(3). In the event of a known or suspected laser overexposure for any class of laser, immediate medical examination is required.

e. Laser Operations.

(1). Each organizational element having laser operations/devices Class 3 and above will maintain a current laser inventory within their area. The inventory will contain the information listed below. Copies of these inventories shall be provided to the LEAD LSO NLT 30 Sep, who will use them to establish a consolidated inventory:

(a). Location.

(b). The manufacturer, model number, and serial number.

(c). Responsible person and phone number.

(d). Active medium and hazard classification.

(e). The type of device (continuous wave or pulse).

(f). Principle wavelength and optical density.

(g). Beam Diameter (mm).

(h). Beam divergence (mrad).

(i). Avg. power output (W or mR).

(j). Energy pulse (J).

(k). PRF (HZ).

(l). Pulse time.

(m). Beam intensity (w/cm^2 or J/cm^2).

(n). Laser application.

f. The SOPs will govern the operation and maintenance of lasers. The SOP will address, in addition to safety precautions to avoid injury by laser light, any associated hazards such as chemical, electrical, cryogenic, fire, noise, and explosion hazards. The SOP will contain first aid instructions regarding injuries that could result from these hazards. First aid procedures will be developed in coordination with the local medical authority. First aid should not be attempted for damage produced by laser energy to human eye tissue.

g. Personnel assigned to work with Class 3b or Class 4 lasers shall wear clothing which is free of highly reflective buttons, badges, emblems, or similar adornments. Rings, metal spectacle frames, and watches will not be worn if the possibility exists that they will inadvertently reflect the laser beam.

h. Personnel working with potentially hazardous levels of laser radiation shall be furnished suitable laser goggles for the specific wavelength and optical density for the laser energy involved.

i. Prior to using laser safety goggles, examine the goggles for visible defects. Any cracks, holes, or damage would indicate defects. Defective goggles will be discarded. If the goggles are designed to serve as impact resistant safety spectacles, replacement filter lenses should meet the requirement of Laser Protection Standards (ANSI Z136.1-.3) and Impact Standards (Z87.1).

j. Prior to working with lasers for the first time, all employees will receive full instructions on the proper use of the equipment and on the hazards associated with the equipment and the laser beam. A roster of authorized personnel for Class 3 and 4 lasers will be maintained at each laser.

k. Electrical equipment operating at potentials in excess of the range of 10,000 to 15,000 volts may produce X-rays. The LOCAL RSO will be requested to determine if X-rays are produced. Personnel dosimeters will be worn in accordance with DA PAM 385-24, if required.

l. An activated laser will not be left unattended except when required by a test and when precautions have been provided to prevent exposure to personnel.

m. Personnel working with Class 3b and Class 4 lasers shall work with, or under the direct visual observation of, another person at all times while actively working with the laser. The two-man safety rule is indicated because these lasers present hazards (electrical, chemical, and explosive) which could cause unconsciousness.

n. Additional practices and procedures for maintenance operations are as follows:

(1). Maintenance personnel should adhere strictly to the precautions outlined in TB 385-4.

(2). Only specially trained maintenance personnel will be permitted to work on laser systems.

(3). No maintenance should be performed on laser systems until the power is off and the residual charge in any power supply capacitor has been “bled-off.” When maintenance must be performed on a “live” laser system, the laser output must be blocked or enclosed.

o. Laser Facilities.

(1). Questions concerning facility design should be referred to the AMCOM RSO. Drawings for the new facilities and/or facility modification should be forwarded to the AMCOM RSO at least 60 days prior to construction for safety evaluation and approval.

(2). All windows in a Class 4 laser facility should be covered to prevent passage of a hazardous beam into an uncontrolled area and to reduce reflective surfaces.

(3). Class 4 lasers whose beams are not totally enclosed should be operated in areas free from polished and reflective surfaces. Walls and ceilings will be finished with diffuse, nonglossy material.

(4). Safety interlocks shall be provided at the entrances of Class 4 laser facilities to deny access to unauthorized personnel while the laser power supply is energized and the laser is capable of firing. A

warning light with an explanatory sign shall be conspicuously placed on the outside wall of a closed room to alert personnel that the laser is in operation.

(5). Mechanical/electrical blocks or physical barriers shall be installed to prevent directing the beam of a Class 3b or Class 4 laser at an angle that could endanger personnel.

(6). The beam of a Class 3b or Class 4 laser shall be terminated by a material which is not highly reflective and which is fire resistant. The composition and thickness of the material will be determined for each laser prior to initial operation to ensure the target will not be penetrated. Asbestos shall not be used to terminate the beam.

(7). Adequate ventilation will be provided for laser operations which can produce accumulations of toxic or flammable gases or infectious fumes or which, in the event of an accidental discharge of coolant from a cryogenic system, can produce an oxygen deficiency.

p. Laser Safety Training.

(1). The individual assigned as the LSO shall be provided training on the potential hazards (including bio effects), control measures, applicable standards, medical surveillance (if applicable), and other pertinent information pertaining to laser safety. The training shall be commensurate with the highest class of laser under the control of the LSO.

(2). Safety training shall be provided to laser personnel who use Class 3a, Class 3b, or Class 4 lasers and laser systems.

(3). Topics for inclusion in a laser safety-training program shall include, but not necessarily be limited to, the following:

q. Fundamentals of laser operation, physical principles, construction, etc.

r. Bio effects of laser radiation on the skin and eyes.

s. Non radiation hazards of lasers (electrical, chemical, etc.).

t. Relations of specula and diffuse reflections.

u. Laser and laser system classification.

v. Control measures.

w. Overall management and employee responsibilities.

x. Medical surveillance practices (if applicable).

y. Required CPR for personnel servicing or working on lasers with exposed high voltages and/or the capability of producing potentially lethal electrical currents.

z. Warning Signs and Labels.

(1). The word “Caution” shall be used with all signs and labels associated with Class 2 lasers and laser systems and all Class 3a lasers and laser systems that do not exceed the appropriate maximum permissible exposure (MPE) for irradiance. The word “Danger” shall be used with all other Class 3a and all Class 3b and Class 4 lasers and laser systems.

(2). A Class 2a laser or laser system shall have a label affixed with the following instructions: “Avoid Long-term Viewing of Direct Laser Radiation.” The label does not require a warning symbol but must have the designation “Class 2a Laser” clearly visible during operation.

(3). The word “Radiation” on signs and labels may be replaced by the word “Light” for lasers operating in the visible range at wavelengths greater than 400 nm and equal to or less than 700 nm.

(4). Pertinent safety information may be included during the printing of a sign or label or may be handwritten in a legible manner and shall include the following:

(5). At position 1 above the tail of the sunburst, include all special precautionary instructions such as: Invisible Laser Radiation, Knock Before Entering, Do Not Enter When Light Is On, Restricted Area, etc. Additionally, protective actions that the reader should know will also appear in position 1. These actions include:

aa. For Class 2 and Class 3a lasers and laser systems where the accessible irradiance does not exceed the approximate MPE bases on a 0.25 second exposure, the statement “Laser Radiation – Do Not Stare Into Beam or View With Optical Instruments.”

bb. For all other class 3a lasers and laser systems, “Laser Radiation – Avoid Direct Eye Exposure.”

cc. For all Class 3b lasers and laser systems, “Laser Radiation – Avoid Direct Exposure to Beam.”

dd. For Class 4 lasers and laser systems, “Laser Radiation – Avoid Eye or Skin Exposure to Direct or Scatter Radiation.”

(1). At position 2 below the tail of the sunburst, the type of laser (Ruby, Helium- Neon, etc.) or the wavelength, the pulse duration (if appropriate), and the maximum output should be listed.

(2). At position 3, list the class of the laser or laser system.

ee. Disposal.

(1). Laser devices should not be sold to individuals not qualified to safely operate these devices. Local, state, and federal laws restricting possession or transfer of lasers shall be followed when lasers are disposed. MILITARY EXEMPT LASERS CANNOT BE TRANSFERRED OUTSIDE OF DOD WITHOUT SPECIAL PERMISSION THROUGH THE DEPUTY UNDERSECRETARY OF DEFENSE (DOD 4160.21-M-1). Disposal of all lasers and laser systems shall be coordinated through the AMCOM RSO.

21-10. Microwave and Radio Frequency Electromagnetic Radiation Safety.

a. Hazard Evaluation and Exposure Control.

(1). The Permissible Exposure Limit (PEL) for all personnel is 0.4 watts per kilogram (W/kg) whole body specific absorption rate (SAR) as averaged over any 6-minute period. Averaging is used to obtain the maximum exposure potential. Exposures separated by more than 6 minutes are considered separate physiological events under ANSI C95.1 (19 Apr 2006).

(2). Derived equivalent PELs for restricted and unrestricted areas can be found in Tables 1 and 2 of US Army Environmental Hygiene Agency Technical Guide No. 153.

(3). Significant evidence has shown that a fetus is at no greater risk than the mother during a pregnancy: therefore, a fetus will not receive any greater exposure than the mother.

(4). The RFR equipment that radiates at frequencies below 1000 MHz and delivers less than 7 watts of radio frequency power to the radiating device is considered non-hazardous.

(5). Medical Surveillance: There is no requirement for a medical surveillance program for RFR workers because there is no scientific basis or epidemiological evidence to suggest ocular surveillance is necessary.

b. Investigation of Incidents.

(1). All incidents involving alleged or actual overexposure to RFR must be investigated and documented (Refer to AR 385-10).

(2). Investigations of incidents involving alleged or actual exposures of five times the PEL or greater must include, as a minimum, measurements of exposure levels, appropriate medical examination, a detailed description of the circumstances surrounding the incident, recommendations for medical follow-up, if necessary, and recommendations to prevent recurrence of the incident.

(3). If a known or suspected overexposure occurs, notify the AMCOM RSO by telephone as soon as possible after the incident or accident occurs.

(4). A copy of all investigations shall be forwarded to the AMCOM RSO no later than 20 days after the initial telephone notification.

(5). The RFR Hazard Training: All occupational workers will receive RFR hazard training. Training will be conducted during basic technical training or before assignment to work areas involving RFR exposure. Personnel will be given annual refresher training to reemphasize training objectives. All training will be documented.

c. RFR Hazard Warning Signs.

d. The format for RFR hazard warning signs can be found in ANSI C95.1. Subdued signs are authorized for tactical use provided the general wording and layout of the sign adhere to ANSI C95.1.

e. The RFR hazard warning signs are required at all access points to areas in which RFR levels may exceed the PEL or derived equivalent PELs. Appropriate information will be inserted on the signs. Competent safety and occupational health professionals may waive this requirement when military operational considerations prevent posting of such signs.

f. In areas where access to RFR levels greater than 10 times the PEL may exist, warning signs alone will not provide adequate protection. Other warning devices and controls, such as flashing lights, audible signals, fences, or interlocks, will be required depending on the potential risk of exposure.

Chapter 22

Explosives Safety Management Program

22-1. Purpose.

a. This document establishes and implements the Explosive Safety Management Program (ESMP) for LEAD. This policy complies with the requirements set forth in Department of Defense (DoD) Directive 6055.9E, DoD Instruction 6055.16, DESR 6055.09, Edition 1, Army Regulation (AR) 385–10, Department of Army Pamphlet (DA Pam) 385-64, and DA Pam 385-65.

b. This ESMP identifies the roles and responsibilities of organizations with an Ammunition and Explosives (AE) mission including service components, contractors, installation and tenant activities, with AE missions under the responsibility of LEAD.

c. It provides the policy and framework for addressing the sixteen elements (organization and staffing, site planning, facilities conformance, emergency response, tenants, master planning, ranges, contractors, accident prevention program, facility maintenance, demilitarization/destruction, risk management, explosives safety issuances, records management, inspections/evaluations/audits and training) required by the Army and DoD.

22-2. Policy.

a. LEAD facilities and operations involving AE must comply with the requirements of all applicable federal, DoD, Army, IMCOM regulations, and this plan. The following minimum requirements shall govern explosives facilities and operations at LEAD:

(1). Perform all conventional and chemical AE installation Commander duties required by AR 385-10 and DA Pam 385-64.

(2). Establish and implement an ESMP.

(3). Ensure that personnel receive explosives safety training as required by Army policy and standards, and contracts include appropriate explosives safety training requirements.

(4). Conduct periodic reviews, inspections, and audits to ensure compliance with the ESMP and implement risk mitigation measures.

(5). Unless prohibited by law or regulation, delegate authority to others to conduct duties as deemed appropriate.

b. It is the Commander’s policy to follow the cardinal rule of explosives safety: limit the exposure to a minimum number of personnel, for a minimum amount of time, to a minimum amount of AE consistent with safe and efficient operations.

22-3. Applicability.

a. The provisions of this regulation are applicable to all units, activities, and tenants that have operations and activities involving the handling, storage, shipping, receiving and/or disposal of AE.

b. Note that throughout this ESMP, AE will mean not only conventional ammunition but also nonstandard AE, chemical agent AE, ordnance, and explosives clean-up operations when and where appropriate.

22-4. Roles and Responsibilities.

a. Commander will:

(1). Accept responsibility for the ESMP and ensure all operations with AE implement all applicable regulations.

(2). Designate an explosives safety program manager in writing.

b. Tenants/Organizations/Activity Commanders/Managers/Supervisors under LEAD responsibility with an AE mission will:

(1). Comply with this ESMP. Each tenant will have an ESMP directly related to its mission.

(2). Establish an SOP in compliance with AR 385-10, DA Pam 385–64, or service component command directive.

(3). Ensure personnel receive and document explosives safety training as required by Army or service component command policy and standards.

(4). Ensure AE contracts include appropriate explosives safety training requirements.

(5). Ensure all efforts are taken to remove excess, unwanted, unneeded, or unknown AE inventory from storage. Each organization will have a surveillance program IAW DA Pam 742-1 to ensure safety of AE in storage.

(6). Participate in the Explosives Safety Council (ESC).

(7). Coordinate with the LEAD Safety Office in the preparation of facilities requiring AE safety site plans. Obtain tenant higher HQ or component command approval of AE safety site plans prior to submitting to the HQ Safety Office for review and approval.

(8). Maintain the proper fire and chemical hazard symbols of AE present within AE facilities and notify installation Fire Department and Safety Office when those hazards change, unless specifically authorized not to do so because of, for example, security concerns.

(9). Ensure periodic inspection and testing are conducted on lightning protection systems for AE facilities IAW DA Pam 385-64.

(10). Conduct periodic inspections and/or audits of AE activities to ensure compliance with the activity SOP and DA Pam 385–64, including compliance with the Hazards of Electromagnetic Radiation to Ordnance (HERO) program requirements.

(11). Ensure Operational/Safety Standard Operating Procedures (SOPs) are properly staffed and approved prior to starting operations, and that no deviations are allowed without proper review and final approval.

(12). Prepare an Explosives License submission for every separate location where there is storage of Class V items.

(13). Prepare and submit, Ammunition and Explosives (AE) Deviation Approval and Risk Acceptance Documents (DARADs) when their AE operations cannot meet AE safety policy; and accept/approve risk at appropriate level.

(14). Participate as required in AE inspections and evaluations.

(15). Ensure AE mishaps are reported, investigated, and analyzed IAW DA Pam 385-40.

(16). Ensure all operations are performed in accordance with approved Explosives Safety Site Plans (ESSPs) and DARADs.

(17). Ensure facilities approved for AE storage and operations are not used for inert storage (unless otherwise approved) and vice versa.

(18). Ensure that a Deliberate Risk Assessment Worksheet (DD form 2977) is completed prior to hazardous operations IAW DA PAM 385-30 and/or ATP 5-19.

(19). Ensure that all operating personnel working with AE are trained and certified, and familiar with ATP 4-35.1 Techniques for Munitions Handlers.

(20). Ensure all required tools and equipment are on hand and in serviceable condition for ammunition operations.

(21). Provide appropriate Personal Protective Equipment (PPE), ensure personnel are trained in its proper use, and personnel are using PPE where required.

c. The LEAD explosives safety specialist has been appointed as the overall explosives safety representative, which will:

(1). Serve as the POC for all ESMP-related actions with the organization/activity's AE operations.

(2). Identify requirements to assist in the preparation, coordination, and review/approval of explosives safety documentation (i.e. Explosive Licenses, AE Safety site plans, safety submissions, SOPs, and AE safety deviations for the organization).

(3). Ensure all organization's Potential Explosion Sites (PESs) and Exposed Sites (ES), both military and civilian, are covered by approved AE safety site plan and submissions and are properly depicted on the Installation Master Plan.

(4). Ensure plans and construction designs for explosives, chemical agent, or ordnance clean-up, manufacture, testing, storage, surveillance, maintenance, response actions, demilitarization, and disposal facilities are reviewed for compliance with safety standards, by appropriately experienced personnel. Including, at a minimum, the Installation ESMP Manager, Environmental Manager, and the DPW Facilities Engineering Team.

(5). Safety inspections will be conducted and documented at least annually for all areas where AE-related activities (for example: production, handling, use, maintenance, munitions response, demilitarization, and disposal) routinely occur. Maintain a list of all such areas and records of inspections. Ensure special analysis and management controls are in place for any nonstandard AE.

(6). Monitor AE uploads and other AE activities that involve the transportation, storage, and operations of AE to ensure pertinent explosives safety requirements are met.

(7). Serve as the focal point for and coordinate ESMP requirements with Commanders.

(8). Annually review the Master Plan for new facilities construction on existing AE sites both prior to and after construction to ensure compliance with explosives safety standards.

(9). Review policies, SOPs, and directives for compliance with explosives safety requirements.

(10). Review DARADs and certificates of compelling reason for completeness and accuracy prior to forwarding for approval.

(11). Maintain a list of approved AE safety deviations and brief incoming Commanders of existence and plans for correction.

(12). Actively participate in the Master Planning process and annually review the Master Plan to ensure current and future operations Explosives Safety Quantity Distance (ESQD) arcs are appropriately drawn.

d. Employees who are involved in AE activities will:

(1). As a condition of employment, adhere to all instructions and use the PPE and protective devices provided.

(2). Be trained in the tasks to be performed. They must understand the hazards, standards, procedures, and precautions that apply to ammunition and/or explosives work.

(3). Develop safe working habits by following safe practice rules and regulations in order to protect themselves and fellow workers from injury.

(4). Read, sign, and adhere to all applicable SOPs prior to working with AE.

(5). Properly secure all AE loads when transporting munitions.

(6). Stop any operation that will cause or is likely to cause death or serious injury or property damage. Immediately notify a supervisor or safety specialist for further guidance. Do not proceed with any AE operation that cannot be performed safely.

(7). Notify supervisor of all safety deficiencies.

(8). Not engage in any operations involving AE unless certified.

e. Contracting Officer Representatives (COR) will:

(1). Monitor, control, and manage contractor operations involving AE to ensure their explosives safety posture meets, or is compatible with, the Army and mission requirements of the organization.

(2). Coordinate with the Safety Office to perform periodic evaluations IAW DA PAM 385-64.

(3). If contractors are involved in a safety related incident or work related illnesses, ensure prompt reporting to the appropriate authority or chain of command. All incidents and work related illnesses must be reported immediately to the supervisor. Immediately after management/supervisory personnel notifications, notify the Safety Office and the Contracting Officer.

22-5. Contracting.

a. All contracts involving AE will include DFARS, clause 223.370. DFARS, clause 223.370 requires the use of DoD contract safety manual and safety oversight. This clause cannot be removed without authorization from the Commanding General. The lead contracting agency will review appropriate AE contracts for other explosives safety requirements.

b. In addition to the DFARS clause, all AE contracts will require compliance with AE safety requirements, accident reporting provisions and develop a SOP as required by DESR 6055.09, Edition 1, AR 385-10, DA Pam 385-64 and DoDM 4145.26M, whichever is most stringent. Use of DoDM 4145.26M in lieu of Army Safety documents/ regulations will require approval by the Commanding General.

(1). For operations monitored by Defense Contract Management Agency (DCMA), the DCMA safety representative will coordinate any AE safety issues with the Safety Office.

22-6. Master Planning.

a. Real Property-Master Planning (RPMP) is a continual, collaborative, and integrated process, primarily performed at the installation level, reflective of mission requirements. In order to maintain this process, it is imperative that all tenants and component commands use the systems specified in AR 210- 20, RPMP for Army Installations, 16 May 2005 when requesting changes or additions to the RPMP. The Senior Commander, or his/her designated representative, will participate in the installation Real Property Planning Board (RPPB) to ensure that all new construction or modifications to existing structures is properly sited according to explosives safety standards.

b. Any real property known or suspected to contain Munitions and Explosives of Concern (MEC) (RCWM) IAW DESR 6055.09, Edition 1 and DA Pam 385-64 chapter 19, Unexploded Ordnance (UXO) IAW DA Pam 385-64 chapter 19, or Chemical Warfare Materiel (CWM) IAW DA Pam 385-61 will be treated and handled accordingly.

c. The Letterkenny Army Depot (LEAD) Master Planning, as part of the Department of Public Works (DPW), will maintain an AE Master Plan map showing locations of AE operations and quantity distance arcs for applicable installation. The Installation Safety Office and the Installation Master Planning shall develop these maps jointly.

d. The AE Master Plan map will include the following:

(1). AE hazard class, division, and the Net Explosives Weight (NEW) authorized at each site.

(2). AE safety 'clear zones' required around each location based on ESQD criteria.

(3). Primary and alternate routes for the transport of AE through the installation.

(4). Locations, outside of designated impact areas, authorized for the conduct of AE operations to include on or offloading and combat aviation and ground loading.

(5). AE support facilities.

(6). Locations of real property and facilities known or suspected to contain MEC, Material Presenting a Potential Explosives Hazard (MPPEH) and areas where a munitions response (cleanup) have been completed, but residual hazards are known or suspected to be present.

(7). Date the map was last validated.

e. The LEAD Safety Office will annually document a review of the AE Master Plan map to monitor encroachment within ESQD and ensure required explosives safety site plans, submissions and explosives licenses are accomplished.

22-7. Site Planning.

a. All locations with AE must have an approved ESSP as required by DA Pam 385-64 and DA Pam 385-65. ESSPs are submitted using Explosives Safety Siting (ESS) Software.

(1). For those AE locations that do not require an ESSP, LEAD will control explosives limits with an explosives license, documented risk assessment, and SOP and will ensure the appropriate quantity distance for the AE location is properly reflected on the host installation Master Plan.

(2). For those AE locations that require an ESSP, the LEAD Safety Office will prepare the ESSP in accordance with DA Pam 385-65. The LEAD Commander will sign all ESSPs for submission prior to sending up to AMCOM HQ safety for further processing to U.S. Army Technical Center for Explosives Safety (USATCES) and on to the Department of Defense Explosives Safety Board (DDESB).

(3). ESSPs that include protective construction designs to reduce quantity distance (QD) requirements for personnel protection will have engineering designs coordinated with and approved by the US Army Engineering and Support Center, Huntsville, AL, or the Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC), Port Hueneme, CA.

b. Prior to submission, technical issues associated with the ESSP can be arranged with AMCOM HQ Safety to address complicated technical issues (such as protective construction, appropriate QD, lightning protection, etc.), develop mutual solutions and expedite the ESSP approval process. If further discussion/clarification is needed, AMCOM HQ Safety will coordinate with USATCES and/or DDESB.

c. Every effort will be made to resolve ESSP conflicts at the lowest Command level.

d. All Army ESSPs will have the approval of the Senior Commander or his/her designee before submission to the USATCES.

e. Upon approval of an ESSP by DDESB and USATCES, the Safety Office will send a copy of the approved ESSP to the Operating Activity and Installation Master Planning; and will function as the central repository for all applicable ESSPs. The organization having the AE mission shall retain a copy of the approved ESSP.

f. All AE facilities that store explosives must have an explosives license as required by DA Pam 385-64. The LEAD Safety Office will review, approve, and maintain a repository of the applicable explosives licenses. All explosives licenses are maintained in the LEAD Shared Drive in a Read Only format. The LEAD Explosives Safety Program Manager is responsible for maintaining the document. Every explosives license must be reviewed annually by the LEAD Explosives Safety Program Manager against the approved ESSP(s) and provide a memorandum stating verification of this annual review to the Senior Commander. The LEAD Safety Office will maintain copies of all explosives licenses.

g. Every AE operation will be conducted using an SOP. SOPs will comply with AR 385-10 and AR 385-10 will be used as a guide for the preparation of SOPs. The SOP will reflect explosives limits authorized for safe and efficient AE operations, but in many cases will be less and never more than the maximum permitted by ESSPs and explosives licenses.

22-8. Explosives Site License.

a. Explosives site licenses are permanent documents with no expiration date. Explosive licenses are required for all facilities using and/or storing AE. The license is a locally developed form following the guidelines established in DA PAM 385-64.

b. The explosive license form will at a minimum, contain the following information:

(1). The Locally assigned license number.

(2). Ammunition or explosives area location, or real property/facility number.

(3). Site plan file number. If authorized under a DARAD, the assigned DARAD number will be used until a site plan is attained.

(4). Type of facility, i.e., Earth-Covered Magazine (ECM), Above-Ground Magazine (AGM), etc.

(5). The Hazard Class/Division (HC/D) authorized by an approved site plan i.e., 1.1, 1.2.1, 1.3, etc.

(6). Allowable limits of each of HC/D, expressed in pounds (lbs.) net explosives weight (NEW) authorized by an approved site plan or DARAD.

(7). Determining or limiting factor, which limits the amount of the NEW being stored.

(8). Actual separation distance between the facility sited and the determining or limiting factor.

(9). If compatibility “Z” storage has been authorized for the facility, an asterisk must appear in the Z column of the explosives site license.

c. Licenses will be readily available to all personnel.

d. This document signifies the maximum explosives quantity designated for a specific location.

e. The final approval for a license is the LEAD Senior Commander and the LEAD Explosives Safety Manager. The LEAD Safety Office will maintain each license.

f. Licenses will be reviewed annually by the LEAD Safety Office.

g. A new license will be required if encroachment changes the determining factor, changes in quantity-distance standards, significant changes in the form or for other compelling reasons on a case-by- case basis.

22-9. Facilities Conformance.

a. LEAD is responsible to ensure facility construction meets requirements of approved ESSP(s) in accordance with the DA Pam 385-64.

b. LEAD is responsible for ensuring periodic inspections of their AE facilities and/or operations to ensure continued compliance with approved ESSP and other safety requirements. LEAD personnel will submit work orders through the LEAD DPW work order system for facility non-conformances.

c. The LEAD Safety Office and DPW reviews and releases work orders pertaining to explosives safety for work completion.

d. LEAD Safety Office has the authority to inspect any facility and/or operation at any time.

22-10. Facilities Maintenance.

a. LEAD will have a program to address facility maintenance. Each program will:

(1). Ensure facility maintenance plans and schedules are in place for explosives related and supporting structures.

(2). Ensure action plans are in place for identifying, funding, and correcting facility deficiencies (repair, replacement, and modification).

(3). Ensure periodic inspections are conducted on lightning protection systems. See DA Pam 385-64 for guidance.

(4). Ensure specialized training and certification provided (if required) to maintain explosives facilities.

b. Use the work order process through DPW for facility maintenance to be performed by installation personnel/contractor.

22-11. Ranges.

a. Purpose: The purpose of this program is to provide realistic training to LEAD personnel, protect personnel and property while improving readiness, and sustain operations at LEAD. This program will implement measures that minimize explosives hazards and eliminate hazards to people and property not directly related to the range operations. Risk management will be utilized in all areas of the range safety program to prevent accidents and injuries as well as property damage. A range training and certification program is defined within this policy to ensure that all personnel associated with range operations are qualified to maintain established procedures and safety practices.

b. Terms/Definitions

(1). **Range Management Authority (RMA)/Range Control Officer (RCO):** Person who serves as the central point of control and coordination for all activities conducted within the installation/community training complex and implements and enforces the installation/community range safety program. This may include the scheduling and maintenance of the training complex.

(2). **Range Safety Officer (RSO):** Person who is the direct representative of the OIC of firing or other operations. The RSO is responsible to the OIC for insuring the adequacy of safety of firing, training operations, and ensuring compliance with laser range safety requirements and local standing operating procedures.

(3). **Officer In Charge (OIC):** Person responsible for personnel conducting firing or operations within the training complex.

(4). **Surface Danger Zone (SDZ):** The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include ammunition, explosives, and demolition explosives.

(5). **Standard Operating Procedure (SOP):** Standing Operating Procedure.

(6). **Risk Management (RM):** The process of identifying, assessing, and controlling risk arising from operational factors and making decisions that balance risk cost with mission benefits.

c. Responsibility

(1). Commander will:

(a). Establish a range safety program that meets the requirements of Army regulation.

(b). Assign an RCO in writing within the Directorate of Emergency Services (DES).

(c). Ensure appropriate range safety training is provided.

(d). Implement a range certification program.

(e). Ensure the Public Affairs Office (PAO) community relations participates in planning and execution of the Command's Explosive Safety Management Program (ESMP). Ensure that all release of information to the public new media is made through the PAO's office.

(f). Ensure warnings are issued at least 24 hours in advance of any firing operations that may involve possible hazards to the general public.

(g). Prohibit use of alcohol and controlled substances in the training complex.

(h). Ensure ammunition and explosives not expended during training are returned to the ammunition supply point (ASP), in the original packaging, when firing is completed or as directed by local policy.

(2). Safety Manager will:

(a). Provide oversight responsibility for all range safety matters.

(b). Annually evaluate the overall effectiveness of the installation range safety program.

(c). Inspect the installation training complex semiannually and high-risk training operations quarterly to support safety in training missions.

(d). Review proposed local range safety policies and procedures.

(e). Review and comment on all high-risk and/or extremely high-risk assessments for training and operations on installation-owned facilities and units, and others as directed by the Commander.

(f). The range on Letterkenny Army Depot is confined to government access only. The need for an on and off post dud awareness educational program was assessed for risk. There is no risk for children to access the range. Therefore, no educational program has been implemented at this time.

(g). Investigate or ensure range accidents are investigated by the appropriate command level.

(h). Maintain records of accidents occurring within or originating from the installation training complex.

(i). Review all range modification and construction proposals, designs, and plans.

(j). Participate in final range acceptance inspections following construction, renovation, or modification of facilities prior to any firing on the range.

(k). Review all nonstandard range and training activities, to include the user-provided RM documentation for those activities with high or extremely high residual risk.

(l). Review and make recommendations regarding the conduct of overhead fire.

(m). Monitor installation OIC and RSO training program effectiveness. OIC/RSOs must complete the Range Safety Course (Basic) Distance Learning Course prior to attendance at installation OIC/RSO training. The Phase 4A Range Safety Course (Basic) is a 5 hour on-line course focusing on the duties of the Range OIC and Range Safety Officer, Range Structure and Unit Requirements for Range Operations. The course is located on the Army Learning Management System (ALMS), https://www.lms.army.mil.

(3). Range Management Authority (RMA)/Range Control Officer (RCO) will:

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

(b). Coordinate safety issues with appropriate installation staff including the installation safety manager (Army).

(c). If authorized in writing by the installation Commander/Senior Commander, withdraw or suspend installation training complex privileges from any person, organization, agency, or club that willfully violates the policies in this publication or local range regulations and procedures; or from any person whose ability or conduct is incompatible with the safe use of Government range structures and facilities.

(d). Maintain original records of current and historical danger zones, weapon system safety data, firing limitations, and survey data for firing points and impact areas within the installation training complex boundaries

(e). Approve, control, and monitor personnel access into the installation range and training area (RTA) complex for both training and administrative activities. All visitors to RTAs will be approved by the RCO. The RCO will be included in all range scheduling activities. If empowered by the installation Commander/Senior Commander, the RCO is the final authority regarding the use of training facilities and will authorize the commencement of live-fire and/or lasing operations.

(f). The RCO, in coordination with installation safety and EOD representatives, determines whether it is safe to permit access and, if required, establishes prerequisite precautions including escort by EOD or unexploded ordnance (UXO)-qualified personnel.

(g). Maintain current maps and overlays of training complex impact area boundaries, danger zone diagrams, and ground hazards for dissemination of information to installation training complex users.

(h). Establish, maintain, and document safety certification procedures for unit range OIC and RSOs. The installation RCO ensures that all OIC and RSOs have received baseline education addressing the use of installation training complex facilities (for example, installation procedures for opening and closing facilities, communications requirements, medical evacuation procedures, and so forth).

(i). Perform administrative and investigative duties related to the safe operation of ranges, training areas, and airspace.

(j). Exercise oversight of unit range OIC and RSO training programs and serve as the authority on suspension or termination of OIC/RSO certification (Army).

(k). Exercise approval authority for the conduct of overhead fires when authorized by the installation Commander/Senior Commander. Approval is based on considering unit RM documentation, maneuver plans, and the installation safety manager's (Army) recommendation.

(l). Coordinate, as required, with installation facilities engineers for maintenance of ranges and training facilities to provide safe operating conditions.

(m). Participate as a member of the installation range accident investigation team, providing weapons and munitions information, scenario input and time-line data, and subject matter expert SME input to the installation safety manager.

(n). Coordinate with local EOD, environmental, installation safety, and other involved staff organizations for clearance of specific UXO on a case-by-case basis as dictated by mission requirements (Army). This unscheduled UXO clearance is in addition to the recurring operational range clearance requirements in DODI 3200.16. Maintain a working register of all known RTA facts, circumstances, and information concerning UXO within the installation RTAs. This data must be maintained as a critical historical record and be made available to those installation staff elements that may employ the information to reduce the risk of UXO-related incidents (for example, Department of Public Works, Safety Office, Provost Marshal, Public Affairs Office, Fire Department, and so forth).

(o). Develop and publish an installation/garrison standard operating procedure (SOP)/range regulation.

(p). Ensure that appropriate explosives safety site plans are submitted for permanent ammunition and explosive storage facilities (except for 1.4 small caliber ammunition) on ranges.

(q). Designate ranges/areas that are not known or suspected to contain UXO for hunting and other recreational activities. Control the movement of personnel so as not to interfere with operational range training.

(r). Prohibit unnecessary access (for example, livestock grazing, recreational uses such as hunting and hiking) and take appropriate action to deter unauthorized access to areas known or suspected to contain UXO or other munitions that have experienced abnormal environments.

(s). Successfully complete, for the Army, the Inter-service Range Safety Course (Intermediate) or the Range Safety Course Level II.

(4). Range Safety Officer (RSO) will:

(a). Be a Commissioned Officer, Warrant Officer, Noncommissioned Officer (NCO), or civilian equivalent. Civilian contractors may act as RSOs when approved by the installation Commander/Senior Commander. Grade requirements will be in accordance with OIC/RSO appointment requirements in DA Pam 385–63. Personnel assigned as RSO will have no other duties during that period of training, except for aviation weapons systems training where instructor pilots, standardization instructors, or flight instructors may assume RSO duties. Assistant RSOs may be appointed as required.

(b). Be weapon system qualified. For combined arms live-fire exercises (Army) or, an exercise RSO will be assigned who may not be weapon system qualified on all weapons used during the training exercise. The exercise RSO will supervise and coordinate the activities of weapon

system RSOs who are qualified on those systems. The exercise RSO grade requirements are in accordance with OIC/RSO appointment requirements in DA Pam 385–63.

(c). Have proof of satisfactory completion of unit range safety certification program.

(d). Receives range safety briefing from the installation range control organization on use of the RTAs.

(e). Before granting clearance to fire ensure that:

1. The unit is on the correct range, firing point, or firing area as assigned by the range control office.

2. Weapons and personnel are properly positioned.

3. Authorized ammunition and explosives are used.

4. Firing settings and weapons systems are within prescribed safety limits and verified.

5. Danger zone is clear of all unauthorized personnel.

6. Proper hearing protection is worn by personnel within noise hazard areas.

7. Proper eye protection is worn by personnel within eye hazard areas.

8. Permission is received from range control to commence training and live-fire operations.

9. Compliance with responsibilities listed in local SOPs.

(f). Conducts final coordination with the OIC, prior to commencing live-fire operations. This coordination will include a summary of checks, inspections, and actions that the RSO has completed, verification that required communications have been established, and that a “hot status” has been received from range control.

(g). Order immediate cease-fire or check-fire when any unsafe condition occurs.

(h). Be physically present at the training site.

(i). Report all accidents and ammunition malfunctions to the range OIC.

(j). Verify, upon completion of firing or firing order, to the OIC that all weapons and weapons systems are clear and safe before allowing the removal of weapons from the firing area.

(5). Officer In Charge (OIC) will:

(a). Be a Commissioned Officer, Warrant Officer, (NCO), or Civilian equivalent. NCOs serving as OIC will be in the grade as shown for OIC/ RSO appointment requirements in of DA Pam 385–63 at a minimum.

(b). Be knowledgeable in the weapon systems for which they are responsible. The OIC holds responsibility and accountability for the conduct of the activity and the adherence to governing regulations and guidance. OIC must be able to fully influence the conduct of the event.

(c). Will have proof of satisfactory completion of unit (Army) range safety certification program.

(d). Ensure the overall safe conduct of training and proper use of the installation training complex.

(e). Receive a range safety briefing from installation range control organization on use of the RTA complex.

(f). Ensure the using unit is on the correct range, firing point, or firing area as assigned by the range control office, and has the weapons and munitions approved for use on the range.

(g). Ensure the RSO is physically present at the training site.

(h). Determine when it is safe to fire in accordance with applicable regulations and installation range requirements.

(i). Ensure receipt of final clearance to fire from range control.

(j). Ensure proper supervision of personnel performing misfire, hang-fire, and cook-off procedures.

(k). Ensure required communications are established and maintained.

(l). Ensure adequate medical support is available.

(m). Ensure ammunition and explosives are properly handled, transported, stored, and accounted for within the training complex from the time of receipt to the time of expenditure or turn in.

(n). Ensure a written log is maintained of pertinent safety and control data concerning the operation of firing ranges, weapons training facilities, maneuver areas, authorized operating times, impact areas (entries and exits), and cease-fire authorizations.

(o). Ensure plans for firing exercises and maneuvers are coordinated with range control.

(p). Ensure control of target areas to prohibit entry by unauthorized personnel.

(q). Ensures all ammunition malfunctions and accidents are reported to range control in accordance with AR 75–1 and DA Pam 385–40

(r). Ensure coordination and approval has been gained from the range control agency for all civilian and contractor personnel who will be entering the training site.

(s). Brief the RSO on the duties to be performed in support of the training event. Clearly establishes the requirement for the RSO to brief the OIC on the safety of the facility and unit, and the readiness to commence live-fire operations prior to the start of firing.

(t). Implement RM in all phases of the training events.

d. Training

(1). Range Safety Certification:

(a). Range safety certification programs will be used to train and qualify personnel in the duties of OIC and RSO for firing exercises and maneuver operations. Army certification programs are normally conducted at the unit level in accordance with an established range safety certification program. Government civilian personnel may serve as OIC or RSO per the guidance in DA Pam 385-63. Contractors may serve as RSO, but in accordance with Department of Defense Instruction (DODI) 1100.22 and Federal Acquisition Regulations Subpart 7.5, contractors may not serve as OIC.

(b). Range safety certification programs will be integrated into organizational training.

(c). Once satisfied through training and testing that individuals are qualified to perform the duties of OIC and RSO of the firing unit, battalion/squadron Commanders will forward their names to range operations for appropriate action.

(2). Range Safety Card:

(a). A locally devised "Range Safety Card" program may be employed in lieu of unit-generated rosters of certified personnel if approved by the senior Commander.

(b). The installation RMA and the Safety staff will monitor the effectiveness of range safety certification programs for OICs and RSOs.

(3). Range Safety Briefing:

(a). The RMA will provide personnel designated as OICs and RSOs a range safety briefing on the use of the training complex as part of certification.

e. Risk Management.

(1). Surface Danger Zone (SDZ):

(a). Every weapon system and the ammunition/ordnance related to that weapon system requires a danger zone. Danger zone size and shape are dependent on the performance characteristics of the weapon system, ammunition, training requirements, geographical location, and environmental conditions. They should not account for human error.

(b). Surface danger zone (ground-to-ground): An SDZ delineates that portion of the earth and the air above in which personnel and/or equipment may be endangered by ground weapons firing or demolition activities. These SDZs are designed to make the probability of hazardous fragment or round escapement from installation boundaries unlikely and minimize the danger to the public, installation personnel, facilities/equipment, or property. The two basic SDZs are the cone and the "batwing." The batwing SDZ provides for greater containment of ricochets.

(2). SOP:

(a). Procedures:

1. Procedures will be defined within the operational SOP. All employees will review and sign the SOP before the beginning of operations.

2. The SOP will include general safety requirements, a list of operations, and hazard analysis with mitigation measures.

3. Operations will include type of training event, weapons system, and quantity and type of ammunition used.

4. All ammunition will be checked for suspension and restrictions prior to use.

5. All training events will be required to have an approved risk management assessment approved by the RMA before opening of the range.

6. The SOP will have signature concurrence from the Safety Office, The Directorate of Emergency Services (DES), and the Directorate of Public Works (DPW); with the approval signature from the Installation Commander. The most current version will be posted at the Range at all times while in use.

(b). PPE:

1. Training casualties on operational ranges must be minimized through the use of appropriate personal protective equipment (PPE). Ultimately, the Commander must decide the appropriate level of PPE based on thorough risk assessment.

2. All personnel within the hearing hazard zone will wear approved hearing protection. The size of the hazard zone varies with the weapon. For administrative convenience, the size of the hearing protection zones can be increased to encompass areas within convenient

access or demarcation points. For the Army, the senior Commander may, based on risk management, mitigate risk of noise hazard to the lowest possible level consistent with mission accomplishment. The following list of distances to the hazard contours for common military weapons is conservative:

e. 0.50 caliber: 55 m to the side; 12 m to the rear.

f. 0.45 caliber: 12 m to the side; 4.5 m to the rear.

g. 9mm: 9 m to the side; 6 m to the rear.

h. 7.62mm: 20 m to the side; 8 m to the rear.

i. 5.56mm: 24 m to the side; 6 m to the rear.

3. Approved eye protection (or eye armor) will be used, especially during force-on-force training maneuvers or scenarios by personnel undergoing training, as well as those in close proximity. Based on risk assessment, the senior Commander may reduce or eliminate requirement for eye protection, if the decision is made that reduced vision created by use of eye protection outweighs its value. For the Army, to prevent serious eye injury, the only approved eye protection for use with close combat mission capability kit (CCMCK) is the standard-issue sun, wind, and dust goggles (national stock number 8465–01–328–8268), which must be worn until all training has ceased.

4. The discharge of weapons creates hazardous impulse noise levels and in the firing range, the impulse noise may act differently when it reflects off hard surfaces. Repeated exposure to impulse noise greater than 140 decibels can cause significant hearing loss. The noise exposure limit is at 84 decibels on the A-weighted scale (decibels (A)) for frequencies of 20 to 16,000 hertz)) for an 8-hour time-weighted average. When time-weighted average exposures are greater than 84 decibels (A), personnel exposed to these activities shall be included in the Hearing Conservation Program.

(c). Issue and Turn-in of ammunition will be documented IAW applicable regulations. Procedures will be defined in the operational SOP.

(d). Small Arms Conditions:

1. Small arms are man-portable, individual, and crew-served weapon systems of 30 mm or less, used primarily against personnel and lightly armored or unarmored equipment.

a. The cone SDZ may be applied when designing or conducting training on static/known distance style ranges that do not involve fire and movement or fire and maneuver.

b. The batwing SDZ provides for greater containment of all ricochets. For the Army, the batwing will be considered when designing or conducting training on ranges that involve fire and movement, fire and maneuver, flanking fire, and/ or when ricochet hazards outside the range boundary may endanger nonparticipating personnel. Decision on use of batwing will be based on level of risk and approval of appropriate command risk acceptance authority in accordance with DA Pam 385–30.

c. Risk management process documentation for the unit conducting training will be approved by the RCO before each training event. Training events in which the SDZ dispersion area has been reduced from 5 to 2 degrees will be specifically addressed in the risk management worksheet.

d. Surface danger zone data for small arms will be established by the RCO and coordinated for each training exercise.

2. Close combat mission capability kit (Army).

a. All personnel engaged in CCMCK force-on-force training will wear PPE in accordance with the procedures, restrictions, and other guidance contained in technical/operator manuals, references, and/ or pamphlets (T M 9–6920–3700–10). No personnel will be allowed within 75 m of the outermost boundary of the training area when force-on-force training is being conducted without meeting the minimum PPE safety requirements.

b. All participants will be instructed that no head shots will be taken.

c. The minimum engagement distance is 1.5 m (5 ft).

d. All participants will be inspected by the RSO, NCOIC, or OIC prior to the initiation of training to ensure that PPE is worn and that employed individual weapons (M16/M4/M249/M9/M11) have been properly converted to fire low-velocity marking ammunition.

e. Single hearing protection is required to be worn within 5 m of 9mm and 5.56mm weapons using CCMCK marking ammunition during firing. See paragraph 2–11c for eye protection 900271requirements. Tabular data is contained in DA Pam 385-63.

f. Range SOPs will address accessing the range, certification, weapon's safety, communication, emergency response, accident reporting, SDZ's, issue and turn-in of ammunition, course of action, firing, range clearance, and release of range back to RCO to ensure no unprotected personnel are exposed to training fires.

(e). Range Clearance:

1. Range clearance will be conducted at the end of each exercise and/or the closure of the range. All expended munitions will be accounted for on a local report. Rounds suspected to have explosives residue will be segregated and transported for disposal as specified in the local SOP.

2. Misfires procedures will be outlined in the operational SOP. Cease fire conditions will be at the discretion of the OIC.

f. Communication:

(1). There will be 2 forms of communication in place at all times while energetic operations are conducted on the range.

g. Range Use for Non-LEAD Personnel:

(1). Outside entities will request use of the range no less than one week from the date of training. This request will include:

(a). Date and time of use

(b). Weapon System

(c). Ammunition

1. Description

2. Transportation Plan

(d). Course of Fire

(e). Risk Assessment(s)

(f). Hold Harmless Agreement

(g). Medical Representative

(h). RSO and OIC representative

(i). LEAD representative serving as RSO or OIC

(2). Designated LEAD personnel will accompany all external personnel and operations while operating the LEAD Range. LEAD personnel will ensure that weapons and ammunition are transported IAW with Army regulations.

(3). The use of weapon systems that have modifications that affect the accuracy, muzzle velocity, or safe operation of the weapon are not permitted for use at the LEAD range. All questionable modifications will be reviewed and approved by the RCO prior to use on the range.

(4). Only military or government entity service weapons and/or Privately Owned Weapons (POW) approved by the person's governing agency for service use will be authorized at the LEAD range. The RCO will also be the final reviewer and approver for these instances.

(5). All individuals will read, understand, and acknowledge the operating SOP and the range safety briefing before any operations/training occurs.

NOTE

Under no circumstances will any person deviate from the pre-approved elements identified on the range use form. This includes the date/time of the range, weapon systems being fired, ammunition being used, or course of fire being executed.

22-12. Demilitarization/Destruction.

a. Demilitarization or destruction of ammunition, explosives, and propellants will be accomplished by reclamation, Open Burning/Open Detonation (OB/OD) incineration, or other approved methods.

b. Any organization/activity conducting demilitarization or destruction will have current up-to-date SOPs in place. The LEAD Safety Office will periodically monitor AE disposal and demilitarization activities.

c. If Explosives Ordnance Disposal (EOD) support is required, contact the 20th Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Command Operations Center.

d. CBRNE support is located at Aberdeen Proving Ground, and can be contacted at (410)436-6200.

22-13. Unexploded Ordnance (UXO).

a. UXO is considered the most dangerous category of military munitions. There are no safe procedures for moving, rendering safe or destroying UXO, but merely procedures considered less dangerous. Blow-in-place (BIP) is the least dangerous and is the preferred method of UXO destruction.

b. With the exception of Explosive Ordnance Disposal (EOD), no other personnel will attempt to excavate, touch, move, render safe, or dispose of any suspected ammunition item.

c. When a suspected UXO is discovered, it should be immediately reported to the LEAD Safety Office or the Police/Emergency Services. The following procedures should not be implemented for DDESB approved ESSPs that address UXO discovery.

d. Unexploded Ordnance (UXO) Response Procedures:

(1). Notification: In the event that any UXO is located, during or after work hours, follow the “3Rs” response process Recognize, Retreat, and Report:

(a). Recognize that you may have found something in the form of MEC. Remember the general location the UXO was found.

(b). Retreat once you have discovered the UXO. Do not touch, move or disturb the UXO and carefully leave the area, but do not run. The recommended initial withdrawal distance is 4000 feet.

(c). Report the UXO once you are at a safe distance. Notify the authorities and provide a geographic reference such as the nearest intersection or facility number. Provide a brief description of the item, whether the area is secure, and contact information.

(2). Dispatch will notify the Safety Office who will in-turn notify the 20th CBRNE Operations center.

(3). Security will respond to the location and assess the situation, responding to any injuries appropriately, and controlling the scene until EOD arrives.

e. Awareness Training: UXO awareness training is required for all workers performing excavation, demolition, or any other activities that require disturbing the ground.

22-14. Ammunition Amnesty Program.

a. The amnesty turn-in locations at LEAD are located at building 5 and 350. Amnesty ammunition is for small arms up to .50 cal. This includes ammunition collected from field returned vehicles. A Risk Assessment for the designation of the locations is on file in the LEAD Safety Office. The locations are considered low risk, and protect the anonymity of the individuals utilizing the turn-in of unauthorized ammunition and explosives without reprisal. The Amnesty locations will be checked regularly by authorized personnel and inspected for disposition.

b. Ammunition directly issued to personnel should use the range operations portion of this section as well as DES SOP 190-9 for the issue and turn-in of the ammunition. This ammunition is not covered as part of the amnesty program.

c. Any personnel that suspect they may have encountered AE are advised to follow the 3Rs method for safe disposal. Recognize the hazard, Retreat to a safe distance, and Report to the explosives safety program manager at 717-267-5253 or QASAS at 717-267-5823

d. If Explosives Ordnance Disposal (EOD) support is required, contact the 20th Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Command Operations Center.

e. CBRNE support is located at Aberdeen Proving Ground, and can be contacted at (410)436-6200.

22-15. Risk Management.

a. When DoD and Army explosives safety regulations and policies cannot be met, the procedures set forth in DA Pam 385-30 will be followed. The risk acceptance process for LEAD is shown below in the DA Form 7632 approval flow chart. Other Government Agencies (OGAs) and Non-Government Organizations (NGOs) located at LEAD will specify an equivalent risk acceptance process in their SOP.

b. DARAD approval authority will be equivalent to Army requirements specified in DA Pam 385-30. All risk acceptances requiring a DARAD will be submitted to the LEAD Safety Office for review. Copies of approved DARADs will be submitted to AMCOM HQ and USATCES. If a renewal is required, the DARAD will be submitted one HQ level higher for acceptance.

c. The DoD and Army recognize in the referenced regulations that explosives safety deviations may be necessary at times and when required must be documented and managed with appropriate risk management processes.

Table 22-1. DARAD Submittal Process Chart.

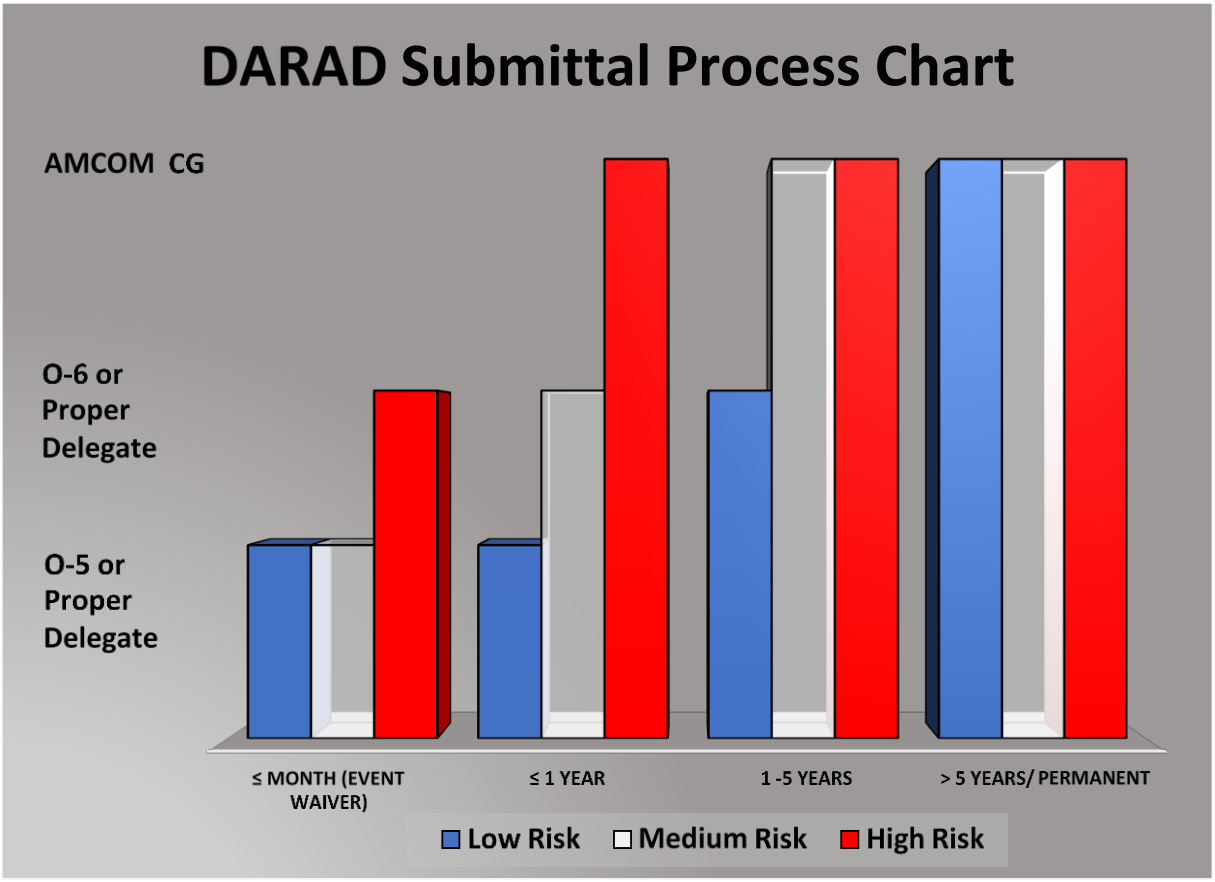


Table 22-2. Risk Acceptance Authority.

Risk acceptance authority for safety standards deviation

Risk acceptance matrix[2, 3, 4, 5]				
	Duration of risk			
	Event waiver	Waiver		Exemption
Category of risk	1 month or less	1 month to 1 year	1 year to 5 years	Permanent or greater than 5 years
Extremely high risk	General officer (GO)	Army Headquarters Commanding General (CG)	Army Headquarters CG	Army Headquarters CG
High risk	Brigade commanding officer (CO) or responsible O–6	GO	GO	GO
Medium risk	Battalion CO[1] or responsible O–5	Brigade CO[1] or responsible O–6	GO[1]	GO[1]
Low risk	Company CO or responsible O–3	Battalion CO[1] or responsible O–5	Brigade CO[1] or responsible O–6	Brigade CO[1] or responsible O–6

Military–Army civilian equivalent grades

Military rank	O–7 though O–10	O–6	O–5	O–4	O–3
Army civilian grade	Senior executive service (SES)–1 through SES–6	General schedule (GS)–15 or equivalent	GS–13 and GS–14 or equivalent	GS–12 or equivalent	GS–10 and GS–11 or equivalent

22-16. Accident Prevention Program.

a. LEAD will have explosives safety as an integral part of their overall accident prevention plan. The accident prevention plan is on the Safety Office Portal Page. Safety Meeting Central is the central point for all accident prevention efforts. It stores meeting topics and recent LEAD accidents, as well as monthly training provided to the workforce.

22-17. Emergency Response.

a. The LEAD Fire Department will conduct fire prevention inspections in AE facilities and has the authority to inspect any facility at any time.

b. All organizations with an AE mission will maintain the proper fire and chemical hazard symbols of explosives present within the facility. In addition, the Safety Office and the Fire Department will be notified when those hazards change.

c. In the event of an explosives accident, the Senior Fire Officer will be the Incident Commander in charge of the emergency response until the scene is declared safe. The Safety Office and QASAS shall be part of the Incident Commanders Response Team.

d. The incident scene will be turned over to the Accident Board appointed investigation team. The appointed Accident Investigation Board (AIB) will control the site after completion of emergency response actions.

e. LEAD, as an Installation with an AE mission has developed a Building Response Plan (BRP) and will practice its plan at least annually. There will be an annual emergency drill specific to an AE accident or incident.

f. Any release of information will go through the appropriate Public Affairs Office (PAO).

g. The Army accident investigation team will be coordinated through Safety.

22-18. Inspections/Evaluations/Audits.

a. LEAD conducts and documents periodic internal (at least annual) inspections and/or audits of AE activities (e.g. AE storage, packing, handling, surveillance, maintenance, demilitarization, and disposal activities) to ensure compliance with DoD and Army AE policies. Inspection findings shall be documented and followed-up to ensure implementation and effectiveness of corrective measures. At a minimum, inspections shall address the elements required by DA Pam 385-64, paragraph 1-9.

b. The LEAD explosives safety representative, or other assigned LEAD safety personnel, will document final AE facilities acceptance inspections following construction, renovation or modification of facilities prior to commencing any explosives operation.

c. The results of external inspections, evaluations, audits, and surveillance efforts (HQ, IG, technical assistance, DDESB survey or program evaluation) will be incorporated into action plans, lessons learned, and will be tracked to remediate inspection deficiencies.

d. Inspection records will be made available for review during all external program evaluations/audits.

e. Organizations/Activities shall conduct periodic surveys of AE transportation activities to evaluate implementation of AE transportation safety requirements. At a minimum, AE transportation inspections shall address the elements required by DA Pam 385-64, paragraph 1-10.

22-19. Explosives Safety Issuances.

a. ESMP issuances consist of, but are not limited to, local policies (SOPs), ARs, pamphlets, and other publications. All tenants/organizations/activities will have a safety policy and SOPs, which include AE safety management.

b. All LEAD AE operations SOPs will be reviewed IAW AMC-R 700-107. LEAD provides appropriate professional safety support for review and concurrence of hazard analysis and SOPs.

c. All explosives safety policies will comply with Army and DoD requirements and will be reviewed by explosives safety personnel prior to approval.

d. Any safety control measures required, such as through ESSP requirements or hazard analysis to manage AE risk, will be documented with controls implemented and periodically monitored to ensure compliance.

e. All tenants/organizations/activities will be aware of and take precautions with any Hazards of Electromagnetic Radiation to Ordnance (HERO) unsafe munitions. If a HERO unsafe munition is located within the LEAD area of responsibility or if a munition is rendered HERO unsafe, the LEAD Safety Office will be notified.

22-20. Records Management.

a. All LEAD records will be maintained as required by ARs. Records will be made available for review during external program reviews/audits.

b. Lightning Protection System (LPS) test and inspection records for the past six inspections cycles will be maintained by the LEAD Safety/DPW Office.

c. LEAD will maintain AE inventory records to control NEW, Hazard Division (HD), and compatibility requirements per site plans and licensing.

22-21. Non-standard Ammunition and Commercial Explosives.

a. Nonstandard ammunition is defined as munitions and/or energetic materials that do not have a standard National Stock Number (NSN), or are not available for procurement through the defense supply system.

b. Storage of nonstandard ammunition at LEAD shall be kept to the minimum in support of approved and funded programs.

c. Nonstandard ammunition/propellant received with valid stabilizer test data results within the two years prior to receipt will be accepted for a period not to exceed two years from the last test date, or the date of manufacture.

d. All nonstandard ammunition requires a DoD, Hazard Division (HD), and Compatibility Group assignment. Nonstandard ammunition without proper assigned HD and Compatibility Group will be stored as HD 1.1 and Compatibility Group L. Small arms items (.50 caliber and below, in which the projectile does not contain energetic other than tracer material) will be stored as HD 1.4, Compatibility Group G. Storage of nonstandard ammunition that requires Compatibility Group L occupies valuable excessive storage space at Ammunition Supply Points (ASPs) and such storage is discouraged.

e. DoD titled, nonstandard and coalition ammunition in storage or transportation will have the Interim Hazard Classification (IHC) physically present with the ammunition at all times.

f. Commercial explosives will not be authorized for use unless proper authorization is given and provisions have been met IAW DA Pam 385-64.

22-22. Training.

a. All tenants/organizations/activities with an AE mission operating under DoD 4145.26M, DoD Contractor’s Safety Manual for Ammunition and Explosives, training of personnel will be IAW C3.3.3. Personnel shall receive appropriate training before performing work that involves exposure to AE. The training shall include specific safety and health hazards and emergency procedures including shutdown and safe work practices applicable to the employee's job tasks. The contractor shall ensure that each employee involved in an AE process has received, understood the training, and receives appropriate refresher training. The contractor

shall prepare a record that contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

b. LEAD personnel will follow TRMD SOP 350-4 training requirements. LEAD will ensure all personnel who are involved in AE operations receive explosives safety training as required by Army policy and standards or applicable component command requirements, including explosives risk management for those responsible for the development and review of deviations and risk assessments. The minimum requirements for AE training are delineated in DA Pam 385-64, Table 22.3 (See below).

Table 22-3. Training Requirements per Position.

Training course	Title or position held and specific duties performed								
	Safety and occupational health professionals in 0018 and 0803 job series	Safety and occupational health professionals with explosives safety responsibilities	Quality Assurance Specialist/ Ammunition Surveillance (QASAS)	Ammunition area and operation supervisors and planners	Ammunition handling and operating personnel	Personnel who prepare, review, or recommend approval of site plans	Personnel who test/inspect grounding, bonding, and/or lightning protection systems	Personnel who handle or manage waste military munitions	Personnel who monitor the safety of contractors handling ammunition or explosives
AMMO-107 or 107-DL[5]	Mandatory	Mandatory	Mandatory	Suggested	Suggested	Mandatory			Mandatory
AMMO-45-DL	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory		Mandatory	Mandatory
AMMO–31–DL		Suggested	Suggested	Suggested	Suggested			Mandatory	
AMMO-63-DL	Mandatory	Mandatory	Mandatory	Suggested	Suggested	Mandatory		Mandatory	Mandatory
AMMO-78-DL	Mandatory	Mandatory	Mandatory	Suggested	Suggested	Mandatory			Mandatory
AMMO–54-DL		Mandatory	Mandatory	Mandatory	Suggested	Suggested	Suggested		
AMMO–68–DL	Suggested	Mandatory-Annual Refresher Required	Mandatory-Annual Refresher Required	Mandatory[6] -Annual Refresher Required	Mandatory[6] -Annual Refresher Required			Mandatory-Annual Refresher Required	Mandatory-Annual Refresher Required
AMMO–65		Suggested	Suggested	Suggested					Mandatory
AMMO–82 or AMMO-99-DL	Suggested	Mandatory	Mandatory	Suggested	Suggested	Mandatory			
AMMO-28-DL	Suggested	Mandatory	Mandatory				Mandatory		Mandatory
AMMO-112-DL	Suggested	Mandatory	Mandatory	Suggested	Suggested				Mandatory
AMMO-100-DL		Mandatory	Mandatory			Mandatory			
AMMO-101-DL		Mandatory	Mandatory			Mandatory			
AMMO-103-DL		Mandatory	Mandatory			Mandatory			
Advanced Explosives Safety Management Workshop	Suggested	Mandatory	Suggested						Suggested
Explosives Safety in Tactical Environments Workshop		Mandatory	Mandatory						
Explosives Safety in RDTE and Industrial Environments Workshop		Mandatory [7]	Suggested						
AMMO- 87-DL		Mandatory [8]	Mandatory					Suggested	
AMMO-90-DL		Mandatory [8]	Suggested						
AMMO-97-DL		Mandatory [8]	Mandatory						Suggested

c. DA Pam 385-64, Paragraph 1-8.c, authorizes local courses providing the same degree and level of training to be substituted for Table 22.3 courses. However, the Safety Manager IAW DA Pam 385-64 must approve any substitution.

22-23. Explosives Storage.

a. Mixed or "Z" compatibility storage will follow the guidance outlined in DA PAM 385-64 and ATP 4-35.1. Mixed storage will not be simply for convenience and will only be granted on a temporary basis not to exceed 364 days. Approval will be granted at the level assessed on the risk assessment of each Z storage case.

b. Storage of AE within LEAD will be IAW AR 385-10, DA PAM 385-64, and this regulation. AE shall only be stored in buildings that have been approved for this purpose and have posted storage limits.

(1). Supervisors are responsible for ensuring that all storage requirements are met.

(2). When conditions are such that storage requirements cannot be maintained IAW approved explosives limits, the LEAD Safety Office will be made aware of the situation immediately so that action can be initiated to correct the deficiency.

c. All facilities containing explosives and ammunition shall be kept clean and orderly, with proper aisle clearance maintained at all times.

d. Quality Assurance Specialists – Ammunition Surveillance (QASAS) are available to provide technical assistance on ammunition and explosives operations. They will also inspect all facilities on an annual basis IAW SB 742-1.

22-24. References.

AR 385-10 – The Army Safety Program

ATP 4-35.1 – Techniques For Munitions Handlers

ATP 5-19 – Risk Management

DA PAM 385-10 – Army Safety Program

DA PAM 385-30 – Risk Management

DA PAM 385-40 - Army Accident Investigations and Reporting

DA PAM 385-64 – Ammunition & Explosives Safety Standards

DA PAM 385-65 – Explosive & Chemical Site Plan Development & Submission

DoD 4145.26-M – Contractor's Safety Manual for Ammunition & Explosives

DESR 6055.09, Edition 1 – Defense Explosives Safety Regulation

DA Pam 742-1 – Ammunition Surveillance Procedures

22-25. Glossary.

AIB	Accident Investigation Board
AAR	After Action Review
AE	Ammunition & Explosive(s)
ASP	Ammunition Supply Point

AOR	Area of Operations
BIP	Blow-in-Place (in reference to UXO)
CCR	Certificate of Compelling Reason
COR	Contracting Officer Representative
DARAD	Deviation Approval and Risk Assessment Document
DCDR-S	Deputy Commander - Support
DCMA	Defense Contract Management Agency
DDESB	Department of Defense Explosives Safety Board
DES	Directorate of Emergency Services
DFARS	Defense Acquisition Regulations System
DPTMS	Directorate of Plans Training Mobilization and Security
DoD	Department of Defense
DPW	Directorate of Public Works
EOD	Explosive Ordnance Disposal
ESC	Explosive Safety Council
ESMP	Explosive Safety Management Program
ESSP	Explosive Safety Site Plans
ESWG	Explosives Safety Working Group
HC/D	Hazard Class/Division
IAW	In Accordance With
MEC	Munitions and Explosives of Concern
MHE	Material Handling Equipment
NEW	Net Explosive Weight
POC	Point of Contact
PPE	Personal Protective Equipment
OB/OD	Open Burning/Open Detonation
QASAS	Quality Assurance Specialists Ammunition Surveillance
QD	Quantity Distance
SDZ	Surface Danger Zones
SOP	Standing Operating Procedure

USATCES	United States Army Technical Center for Explosives Safety
UXO	Unexploded Ordnance

Chapter 23

Ergonomics Program

23-1. Purpose. To establish policies, procedures, and responsibilities for identifying, evaluating, and controlling specific ergonomic hazards.

23-2. References. DA PAM 40-21. Other ergonomic reference materials are listed in Appendix A of LEAD-R 385-1.

23-3. Definitions/Explanation of Terms.

a. **Administrative Controls:** Selected management methods and procedures (i.e. scheduling, job rotation, etc.) which are used to reduce potential employee exposures.

b. **Anthropometrics:** Study of physical dimensions including the measurement of human body characteristics such as size, breadth, girth, and distance between anatomical points.

c. **Biomechanics:** Application of mechanical principles to the analysis of body part structure and movement such as range, strength, endurance, speed, and mechanical responses to physical force.

d. **Carpal Tunnel Syndrome (CTS):** Pain, numbness, and tingling of the fingers due to compression of the median nerve in the carpal tunnel of the wrist.

e. **Commander's Quarterly Safety and Health Council:** Advisory council (chaired by Commander) which provides oversight evaluation and guidance for, and advocacy of, all programs related to safety and health.

f. **Cumulative Trauma Disorders (CTD):** Disorders such as tendonitis, tenosynovitis, and CTS associated with sustained activities that expose the above tissues to mechanical or overexertion stresses.

g. **DeQuervain's Disease:** Inflammation of the long abductor and short extensor of the thumb.

h. **Engineering Control:** Reduction or elimination of a hazard by engineering changes in the workplace such as redesigning workstations, substitution or modification of tools, or reengineering work practices.

i. **Ergonomics:** Multidisciplinary science dealing with the interactions between personnel and the total work environment in order to achieve optimum adjustment in relation to the worker and the work environment with the goal of reducing unnecessary physiological and psychological stresses.

j. **Ergonomics Team:** Consists of members from established Directorate Safety Committees.

k. **Ergonomics Project File:** List of worksite evaluations and projects submitted to the Installation Ergonomics Officer.

l. **Extensions:** Position of the hand with the wrist bent back.

m. **Fatigue:** Local or general noxious effects resulting from work strain undergone by an individual for a certain time.

n. **Fixture Hand:** Hand holding an object while the other hand performs work on the object.

o. **Flexion:** Position of the hand with the wrist bent toward the palm.

p. **Lateral Bending Movements:** Forces acting on the spine resulting from sideways motion.

q. **Lumbar Spine:** Lowest section of the spinal column or vertebral column immediately above the sacrum.

r. **Personal Protective Wear (PPW):** Devices worn by employees that provide some degree of protection from ergonomic stresses such as wrist supports, braces, etc.

s. **Radial Deviation:** Position of the hand with the wrist bent toward the thumb.

t. **Raynaud's Syndrome:** Constriction of the blood vessels of the hands caused by vibration or cold.

u. **Repetitive Motion:** Repeated performance of a task throughout the day which has a cycle time less than 30 seconds and a frequency of 15 times a day.

v. **Directorate Safety Committee:** Group of Employees and Supervisors representing all the areas of the Directorate. Meetings are held on a monthly or quarterly basis in accordance with Chapter 6.

w. **Static Muscle Work:** Muscle contraction without movement; also known as isometric work.

x. **Tendonitis:** Inflammation of a tendon.

y. **Tenosynovitis:** Inflammation of a tendon sheath or synovian tissue.

z. **Thoracic Outlet Syndrome:** General term for compression of the nerves and blood vessels between the neck and shoulders.

aa. **Ulnar Deviation:** Position of the hand with the wrist bent toward the little finger.

bb. **Work Environment:** Environment surrounding a workplace consisting of physical, chemical, and biological factors.

cc. **Work Equipment:** Devices, tools, machines, installations, or other components used in the work system.

dd. **Workplace:** Area allocated to one employee to accomplish a certain operation.

ee. **Work Process:** Sequence in time and space of the interaction of people, equipment, materials, energy, and information within a work system.

ff. **Work Stress:** External load or sum of external conditions affecting people in the work system.

gg. **Work System:** Interaction of people, work equipment, workplace, and work environments imposed by the work task.

hh. **Work Task:** Intended outcome of the work system.

23-4. Policy. To ensure workers have a risk free work environment, to the best possible extent, by providing recommendations to correct areas identified in the Ergonomics Program Inventory. The use of Personal Protective Wear (PPW) will be utilized as an interim measure while permanent corrections are being implemented.

23-5. Responsibilities.

a. Commander will:

(1). Ensure all elements of the DA PAM 40-21 are implemented effectively.

(2). Ensure Directors comply and support this program.

(3). Appoint an Installation Ergonomics Officer in writing for LEAD.

b. Installation Ergonomics Officer will:

(1). Manage and implement the Ergonomics Program.

(2). Establish and maintain the Ergonomics Project File (EPF). All ergonomics reports, evaluations, and correspondence will be maintained for at least three years.

(3). Report to the Commander's Quarterly Safety and Occupational Health (SOH) Council the status of the Ergonomics Program.

(4). Ensure that awareness level Ergonomics Training will be provided to all LEAD employees and user level training is provided to employees conducting ergonomics evaluations.

(5). Review plans for facility modifications, workplace relocation, and purchase descriptions for hand tools, equipment, and furnishings.

(6). Coordinate the completion of more complicated ergonomics evaluations while empowering directorate safety committee team members to conduct evaluations of less complicated ergonomic evaluations. The purpose of this requirement will be to conserve experienced ergonomics resources.

(7). Pursue ergonomics assessment contract when required ergonomics assessments cannot be adequately completed with the available trained resources at the installation level.

(8). Evaluate the program on an annual basis using AMLD Form 4490.

c. Directors and Division Chiefs will:

(1). Ensure first line supervisors, to the greatest extent possible, comply with the Ergonomics Program and monitor the established Directorate Safety Committees to ensure the Ergonomic Team is evaluating and reporting on ergonomics hazards within the directorate.

(2). Ensure plans for facility modification, renovation, construction projects, or purchases for hand tools, equipment, and furnishings have incorporated ergonomic considerations.

(3). Implement recommended controls for reducing risks associated with ergonomic problems. Justification directed to the Installation Ergonomics Officer, is required for all recommendations not implemented.

d. Dunham Army Health Clinic will:

(1). Integrate ergonomic concepts into routine medical surveillance and make recommendations concerning employees continued successful job performances.

e. Industrial Hygiene Office will:

(1). Provide an individual to be assigned as the Installation Ergonomics Officer.

(2). Coordinate with the Safety Office and the Health Clinic to provide appropriate Ergonomics training for all levels of employees.

(3). Maintain the Ergonomics Project File.

(4). Integrate ergonomic considerations when reviewing facility modifications, construction plans, and any contracts for tools.

(5). Consider ergonomic hazards during routine worksite evaluations and assist in solving the identified ergonomic problems.

(6). Coordinate personal protective wear applications with the Safety Office and supervisors.

(7). Provide recommendations based on ergonomic evaluations.

f. Safety Office will:

(1). Integrate ergonomic concepts into routine inspections.

(2). Coordinate and approve the use of personal protective equipment used.

(3). Maintain and analyze injury and illness data related to ergonomic hazards.

(4). Coordinate with the Industrial Hygiene Office to provide appropriate Ergonomics training for all levels of employees.

(5). Integrate ergonomic concepts for routine operations into inspection procedures, training, SOP review, and, as appropriate, into reports and recommendations.

(6). Integrate ergonomic considerations when reviewing new equipment procurement, and facility modification and construction.

(7). Provide input into the Ergonomics Project File.

g. Directorate of Public Works will:

(1). Integrate ergonomic considerations into design of new construction, and facility modifications.

(2). Implement recommendations to eliminate or reduce ergonomic risk when feasible.

h. Directorate of Contracting will ensure ergonomic designs are considered in all contracts for the purchase of new equipment and tools.

i. Directorate Level Safety Committees (Ergonomics Teams) will:

(1). Conduct worksite visits of their individual areas. Input from the Industrial Hygiene Office, Safety Office, Health Clinic, and work force will be considered during worksite visits.

(2). Provide team recommendations to supervisors, Directors, and other appropriate officials.

(3). Submit worksite evaluations to Installation Ergonomics Officer to keep in the Ergonomics Project File.

(4). Report ergonomic hazards in the HRP system and during Directorate Safety Committee meetings. All completed ergonomic evaluation forms will be sent to the IEO for filing.

(5). Conduct Ergonomic evaluations of worksites based on requests from supervisors. Evaluations and findings will be reported in the HRP system and to the Installation Ergonomics Officer.

(6). Make recommendations for addressing identified ergonomic hazards.

j. Union Representatives will:

(1). Report ergonomic complaints to the Installation Ergonomics Officer.

(2). Attend Directorate Level Safety Committee meetings and Commander's Quarterly Safety Council meetings.

k. Supervisors will:

(1). Support the efforts of the Ergonomics Program.

(2). Assure plans for facility modifications, workplace relocation, purchase descriptions for hand tools, equipment, and furnishings are coordinated for review to the Installation Ergonomics Officer. The use of the electronic Notification of Change program will assist in this requirement.

(3). Implement recommended controls for ergonomic stresses provided by trained ergonomics personnel.

(4). Ensure assigned employees receive appropriate levels of ergonomics training. Positions with potential ergonomic risks identified by the Ergonomics Program Inventory will receive additional job specific hands on training.

(5). Provide personal protective equipment to reduce the potential for ergonomic injury or illness while engineering controls are implemented.

(6). Immediately report unresolved ergonomic issues to the Director or Division Chief.

(7). Request ergonomics evaluations to be conducted by trained directorate level safety committee members prior to engaging the Installation Ergonomics Officer for ergonomics evaluation support.

l. Employees will:

(1). Modify work habits recommended to reduce ergonomic risks. Use personal protective equipment as required.

(2). Notify supervisor of any condition that may involve risk and make recommendations for control.

(3). Participate in medical surveillance program.

(4). Attend meetings, training, etc. and participate in the Ergonomics Program.

23-6. Procedures.

a. All employees, supervisor, and managers will receive training on the Letterkenny Ergonomics Program.

b. Whenever an employee thinks that there is an ergonomic issue that needs to be addressed, the employee should contact their immediate supervisor or directorate level safety committee member about the problem.

c. The supervisor will first try to correct the problem. If the problem cannot be corrected, then the supervisor will request a review of the area by the directorate level safety committee.

d. The directorate level safety committee will visit the worksite to discuss the problem and to make recommendations, whenever necessary. All completed ergonomic evaluation forms will be sent to the IEO for filing.

e. A copy of the worksite evaluation will be sent to the supervisor, Installation Ergonomic Officer, and to the various agencies to implement the recommendation(s) within 15 working days or an agreed upon timeline based on any purchases or redesigns of the work area.

f. All identified ergonomic hazards will be loaded into the HRP system for assignment and tracking to closure. All reports entered into the HRP system will be reported to the directorate level safety committee meeting. A summary of these reports will be reviewed at the Commander's Quarterly Safety Council.

g. If an injury has occurred reference Chapter 3.

Chapter 24

Hearing Conservation Program

24-1. Purpose. Reduce and eliminate hearing loss through an effective Hearing Conservation Program. Any changes in noise levels and noise producing operations must be reported to the Safety Office for evaluation.

24-2. Definitions.

a. **Hazardous Noise:** Noise levels greater than 85-dBA or impulse/impact noise exceeding a peak sound pressure levels of 140 dBA. The 85 dBA approximates conditions that exist when it is difficult to hear a normal spoken voice at a distance of 2 feet. When this noise level is exceeded and judged hazardous, a hearing conservation program will be mandatory. Enrollment into the hearing conservation program will be mandatory whenever an employee exposure level exceeds 85 dBA in an 8-hour Time Weighted Average (TWA). Excessive exposures to a workplace ototoxin (ear poison) can also result in hearing loss. In combination with noise exposure, ototoxins can have a synergetic impact on hearing, producing more damage than a higher exposure to either hazard. Activities where noise and ototoxins often combine include: painting, printing, construction, and the manufacturing of metal.

b. **Noise**: Unwanted or unpleasant/loud sound that is disruptive to hearing and may cause damage to the ear. The loss of hearing can occur from exposure to impulse or impact noise such as pneumatic tools, hammers, machines, etc., or from continuous or intermittent sounds such as drills, engines, machines, and other industrial type activities. This loss could be temporary or it may be permanent because of injury to the inner ear.

c. **Ototoxins**: Excessive exposures to a workplace ototoxin (ear poison) can also result in hearing loss. Such agents as lead, a variety of solvents, and carbon monoxide are known ototoxins with other agents such as cadmium suspected. In combination with noise exposure, ototoxins can have a synergistic impact on hearing, producing more damage than exposure to either hazard alone. Activities where noise and ototoxins often combine include painting, printing, construction, and the manufacturing of metal. Enrollment in the hearing conservation program is mandatory when exposure to an ototoxin exceeds 50% of the Occupational Exposure Limit (OEL) for that ototoxin regardless of noise exposure level.

24-3. Policies.

a. Engineering Control Methods: Controlling noise hazards will be accomplished primarily by engineering methods for the reduction of noise at its source. Various approaches that may be used include:

(1). Attenuation of noise at its source by engineering design of equipment.

(2). Substitution for a less noisy operation.

(3). Isolation by removal to a remote area.

(4). Acoustical treatment of rooms.

(5). Enclosure of the noise source.

(6). Proper maintenance of equipment.

b. Noise measurements and analysis required for hazard determination are made by the Industrial Hygienist.

c. Audiometry.

(1). Pre-employment Examinations (Baseline): All personnel will receive a reference audiometric examination before being placed into any designated hazardous noise area. The supervisor is responsible for ensuring this requirement is accomplished.

(2). Transfer Examination: All employees transferring into or out of a noise hazardous occupation or area (with a baseline already on file) must receive an audiometric examination. For personnel transferring into an area, this examination will be conducted within 90 days of the new assignment. For personnel transferring out, the hearing test will be conducted upon termination of service. The supervisor is responsible for ensuring this requirement is accomplished.

d. Personal Protective Devices and Use: The use of hearing protective devices (ear plugs and/or muffs) are the best personal protective measures known. Use of hearing protective devices by personnel assigned to noise hazardous occupations or areas while actually being exposed to continuous levels greater than or equal to 85 dBA or impact/impulse levels of 140 dBA peak sound pressures is mandatory. Generally, in areas where the noise levels exceed 103 dBA, a combination of earplugs and muffs (double protection) will be worn. In areas where the noise levels exceed 108 dBA, double hearing protection and time limitations will apply. Note that hearing aids do not offer protection against hazardous noise and because of their amplification function have the potential to create hearing loss. Hearing aids will not be utilized in locations with noise hazards.

e. Training: All personnel identified for inclusion in the Hearing Conservation Program will receive initial instruction in the requirements of the program and appropriate refresher training annually.

f. Posting Requirements: All noise hazardous areas, tools, and equipment will be marked with the appropriate hazardous noise warning poster, decal/label and/or signs. DA Poster 40-501A (Occupational Noise Exposure Standard and Hearing Conservation Amendment) will be posted in all noise hazardous areas.

g. Regulation: DA PAM 40-501 Army Hearing Program supersedes OSHA 1910.95 Occupational Noise Exposure and Hearing Conservation Program in setting policies and procedures for the LEAD Hearing Conservation Program.

24-4. Responsibilities.

a. The Safety Office will be responsible for:

(1). Coordinating the Hearing Conservation Program with the Dunham Army Health Clinic.

(2). Coordination of noise and ototoxin measurements and analysis with the Industrial Hygienist.

(3). Identify and ensure areas/equipment exceeding noise and/or ototoxic criteria are properly posted/labeled.

(4). Ensure personnel are using hearing protection as required.

b. Dunham Army Health Clinic will ensure implementation of the following functions:

(1). Administer the Hearing Conservation Program with the coordination of the Safety Office.

(2). Provide medical examinations required in connection with the Hearing Conservation Program.

(3). Provide audiometric testing for personnel enrolled in the Hearing Conservation Program.

(4). Provide health education training and professional or technical guidance upon request.

c. Industrial Hygienist will:

(1). Using approved and calibrated equipment, survey all suspected noise and/or ototoxic hazardous areas and equipment at least once a year and within 30 days of any change in operations. Perform an initial evaluation of potential noise hazardous worksites identified by the Safety Office within 30 days of notification.

(2). Establish a time-weighted average for employees working in noise hazard areas and an exposure level for known or suspected ototoxins.

(3). Maintain a current inventory of all noise and/or ototoxin hazardous areas and provides copies to the Safety Office.

d. Worker's Compensation Office will:

(1). Conduct an outgoing hearing test as appropriate. An annual DD2216 audiogram conducted within 6 months of transfer or end of employment may be used as the outgoing audiogram. An outgoing hearing test should be performed for the following situations:

(a). End of employment or retirement.

(b). Transfer to an area where noise exposure levels are below 85 dBA TWA.

(c). Transfer to an area where ototoxin exposure is below 50% of the OEL.

(2). Coordinate with Industrial Hygienist to identify all locations with possible exposure to noise and/or ototoxin hazards and ensure personnel occupying or transiting through those locations are adequately equipped against noise and/or ototoxin agent hazards.

(3). Inform Dunham Army Health Clinic and Safety Office of workers' compensation claims for hearing loss.

e. Directors and Chiefs will:

(1). Ensure that all personnel are scheduled and report for audiometric testing and hearing conservation educational briefings as required.

(2). Ensure that all employees exposed to hazardous noise are adequately equipped with protection devices and ensure these devices are worn.

(3). Report any new operations or changes in current operations, which may affect noise levels produced to the Industrial Hygiene Office for proper evaluation.

f. Noise and/or ototoxin Exposed Personnel will:

(1). Report for all scheduled medical examinations and health education briefings concerning hearing conservation.

(2). Correctly wear approved PPE when exposed to hazardous noise levels and/or ototoxic agents.

(3). Report any hearing problems or difficulties associated with hearing protectors to their supervisors.

(4). Comply with implemented engineering and/or administrative controls.

Chapter 25

Bloodborne Pathogens

25-1. Purpose. Provide a uniform procedure for employee protection from bloodborne pathogens at Letterkenny Army Depot. This plan supports compliance with Occupational Safety and Health Administration, 29 CFR 1910.1030, Bloodborne Pathogens.

25-2. Definitions.

a. **Bloodborne Pathogens (BBP):** Micro-organisms that are present in human blood and can cause disease in humans. These pathogens include Hepatitis B (HBV), Hepatitis C (HCV) and Human Immunodeficiency Virus (HIV).

b. **Contaminated:** The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

c. **Engineering Controls:** Engineering Controls include all control measures that isolate or remove a hazard from the workplace, such as sharps disposal containers and self-sheathing needles.

d. **Exposure Incident:** When an employee has contact with blood or other potentially infectious materials as a result of his or her duties. This contact includes specific eye, mouth, other mucous membrane, non-intact skin, or contaminated sharps/needles.

e. **Needleless Systems:** Devices which provide an alternative to needles for various procedures to reduce the risk of injury involving contaminated sharps.

f. **Non-Intact Skin:** Skin that has cuts, abrasions, or other openings through which bloodborne pathogens may enter the bloodstream.

g. **Occupational Exposure:** Reasonably anticipated employee contact with blood or other potentially infectious materials that may result from the performance of an employee's duties. This includes skin, eye, mucous membrane, or needle stick.

h. **Other Potentially Infectious Materials:** Include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluids, peritoneal fluid, amniotic fluid, and saliva, any bodily fluids visibly contaminated with blood and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Also, they include any unfixed tissue or organ other than intact skin from a human (living or dead) and human immunodeficiency virus (HIV) – containing cell or tissue cultures, organ cultures and HIV or hepatitis B (HBV) – containing culture medium or other solutions as well as blood, organs or other tissues from experimental animals infected with HIV or HBV.

i. **Sharps with Engineered Sharps Injury Protections:** Non-needle sharps or needle devices containing built-in safety features that are used for collecting fluids or administering medications or other fluids, or other procedures involving the risk of sharps injury.

j. **Source Individual:** Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

k. **Universal Precautions:** An approach to infection control in which all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, HCV and other bloodborne pathogens.

25-3. Responsibilities.

a. Safety Manager shall establish a Bloodborne Pathogen Program (BBP), review and execute program, and plan procedures for the support of the program to include:

(1). Ensure the BBP is reviewed and updated annually or whenever new or modified tasks and procedures are implemented which affect occupational exposure of employees.

(2). Provide guidance and technical assistance to the workplace in the design and selection of appropriate engineering and work practice controls.

(3). Promote site compliance with 29 CFR 1910.1030 and provide a means in which employees can direct concerns regarding the Bloodborne Pathogens Program to the Safety Manager.

(4). Establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps.

(5). Employers who have employees who are occupationally exposed to blood or other potentially infectious materials, and who are required to maintain a log of occupational injuries and illnesses under existing recordkeeping rules, must also maintain a sharps injury log. That log will be maintained in a manner that protects the privacy of employees. At a minimum, the log will contain the following: type and brand of device involved in the incident, location of the incident (e.g., department or work area), and description of the incident.

(6). The sharps injury log may include additional information as long as an employee's privacy is protected. The format of the log can be determined by the employer.

b. The Health Clinic will provide the initial employee and source evaluations to all employees.

(1). Employers must solicit input from non-managerial employees responsible for direct patient care regarding the identification, evaluation, and selection of effective engineering controls, including safer medical devices. Employees selected should represent the range of exposure situations encountered in the workplace, such as those in geriatric, pediatric, or nuclear medicine, and others involved in direct care of patients.

(2). Employers are required to document, in the Exposure Control Plan, how they received input from employees. This obligation can be met by listing the employees involved and describing the process by which input was requested or presenting other documentation, including references to the minutes of meetings, copies of documents used to request employee participation, or records of responses received from employees.

(3). Offer employees exposed to BBP the hepatitis B vaccination. For those who decline, a mandatory declination statement must be signed and maintained in the employees medical record.

c. Supervisors, whose employees have the potential to be occupationally exposed to bloodborne pathogens or other potentially infectious materials (OPIM), have a direct responsibility for protecting their employees, and will:

(1). Maintain this guidance in the workplace, and develop, maintain, and enforce a workplace specific written plan according to the guidance within.

(2). Review the workplace specific written plan and provide a copy to the Safety Office for approval annually.

(3). Contact the Safety Office whenever workplace operations change to schedule appropriate evaluations when new infectious materials are introduced, processes or procedures are changed, or engineering controls are modified or added.

(4). Schedule initial and periodic (annual and as changes occur) BBP training per 29 CFR 1910.1030. Document the training in Total Employment Development (TED).

(5). Ensure universal precautions are observed by employees with occupational exposure. Promote practices, procedures, and methods that conform to the concept of universal precautions.

d. Employees will:

(1). Receive initial and periodic training.

(2). Accept or decline optional hepatitis B vaccination. For those who decline, a mandatory declination statement must be signed.

(3). Understand the provisions of the plan and the protection afforded by the OSHA standard. Comply with the provisions of the plan and the OSHA requirements.

(4). Observe universal precautions when handling blood or other potentially infectious materials.

(5). Be aware of and observe established housekeeping procedures, e.g., use mechanical devices to clean up broken glass in lieu of using bare hands. Maintain work area in a clean and sanitary manner.

(6). The bloodborne pathogen rule applies to personnel who are trained in cardiopulmonary resuscitation and first aid and are expected to provide assistance in an emergency.

25-4. Exposure Determination.

a. The following tasks and procedures are reasonably anticipated to involve exposure to blood, body fluids, or other potentially infectious materials:

(1). Performing first aid duties and/or emergency medical treatment.

(2). Performing mouth-to-mouth resuscitation.

(3). Performing custodial duties in restrooms or other public areas where needles may have been disposed of in trash receptacles.

b. All personnel in the following job classifications are determined to have Occupational Exposure or Potential Occupational Exposure:

(1). Police Officers/Guards (GS-083/085).

(2). Firefighter/EMT (GS-081).

(3). Medical Technician.

(4). Occupational Health Physician.

(5). Occupational Health Nurse.

(6). Practical Nurse.

(7). Couriers for Health Clinic Transports.

(8). Employees Trained in CPR/First Aid Practices.

25-5. Training.

a. Employees in the above classifications will receive training on the Bloodborne Pathogens Program and elements initially and annually thereafter.

b. Training shall include at a minimum the following elements:

(1). A copy of the Program and an explanation of the contents.

(2). A general explanation of the epidemiology and symptoms of bloodborne diseases.

(3). An explanation of the modes of transmission of bloodborne pathogens.

(4). An explanation of the appropriate methods of recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.

(5). An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, administrative or work practice controls, and personal protective equipment.

(6). Information on the types, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment.

(7). An explanation of the basis for selection of personal protective equipment.

(8). Information on hepatitis B vaccine, including information on its efficiency, safety, method of administration, and the benefits of being vaccinated.

(9). Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potential infectious materials.

(10). Procedure to follow if an exposure incident occurs, including the method of reporting the incident, and the medical follow-up that will be made available.

(11). Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.

c. Training records shall contain the date of the training session, summary of training sessions, names, and job titles of all persons attending the sessions. Training records shall be maintained through the TED.

25-6. Engineering and Work Practice Controls.

a. All workers shall routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when contact with blood or other body fluids of any person is anticipated.

b. Hands and other skin surfaces shall be washed thoroughly with soap and water and mucous membranes flushed with water as soon as possible after contact with blood or other body fluids. Hands shall be washed after gloves and other personal protective equipment are removed. Where water and soap is not readily available, hand sanitizers may be used for quick wash.

c. In work areas where a reasonable likelihood of occupational exposure exists, work practice controls include restricting eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses; preventing the storage of food and/or drink in refrigerators or other locations where blood or other potentially infectious materials are kept; providing and requiring the use of hand washing facilities; and servicing and shipping. Recapping, removing, or bending needles is prohibited.

d. Although saliva has not been implicated in HIV transmission, mouthpieces, resuscitation bags, or other ventilation devices shall be available for use during emergency mouth-to-mouth resuscitation in areas where the need for resuscitation is predictable.

e. Health care workers who have lesions or weeping dermatitis shall refrain from all direct patient care and from handling patient care equipment until the condition resolves.

f. Take into account innovations in medical procedure and technological developments that reduce the risk of exposure (e.g., newly available medical devices designed to reduce needle-sticks).

g. Document consideration and use of appropriate, commercially-available, and effectively safer devices (e.g., describe the devices identified as candidates for use, the method(s) used to evaluate those devices, and justification for the eventual selection).

h. No one medical device is considered appropriate or effective for all circumstances. Employers must select devices that, based on reasonable judgment will not jeopardize patient or employee safety or be medically inadvisable; and will make an exposure incident involving a contaminated sharp less likely to occur.

25-7. Personal Protective Equipment (PPE).

a. The use of PPE helps prevent occupational exposure to infectious materials. Such equipment includes gloves, gowns, lab coats, face shields or masks, and eye protection. PPE is considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach employees' work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions for the duration of time that the PPE will be used. Supervisors shall ensure employees observe the following precautions for safely handling and using PPE.

(1). Wear appropriate gloves when it can be reasonably anticipated that the employee may have contact with blood and when handling or touching contaminated items or surfaces.

(2). Wear appropriate face and eye protection such as chin-length face shield when splashes, sprays, spatters, or droplets of blood or other potentially infectious materials pose a hazard of blood or other potentially infectious materials pose a hazard to the eye, nose, or mouth.

(3). Disposable gloves shall not be washed or disinfected for reuse. They should also be replaced when visibly soiled, torn, punctured, or when their ability to function as a barrier is compromised.

(4). Utility gloves can be used for housekeeping chores involving potential blood contact and for instrument cleaning and decontamination procedures. Utility gloves may be decontaminated and reused, but should be discarded when they are peeling, cracked, or discolored, or if they have punctures, tears, or other evidence of deterioration or other ability to function as a barrier is compromised.

(5). Place used PPE in appropriate designated areas or containers when being stored, washed, decontaminated, or discarded.

b. If an employee temporarily and briefly declines to use personal protective equipment under rare and extraordinary circumstances, it must be the employee's professional judgment that in this specific instance, its use would have prevented the delivery of health care or public safety services or would have increased the hazard to the worker or co-workers. When this happens, the circumstances will be investigated and documented to determine whether changes can be instituted to prevent such occurrences in the future.

Table 25-1. Recommended Personal Protective Equipment.

TASK	Gloves	Cleanser	Suit/Body Protection	Eye Prot	Mask
Administer First Aid	X	X			
Administer Mouth to Mouth Resuscitation	X	X			X
Advanced Emergency Care	X	X	X	X	X
Clean up of Contaminated Area	X	X		X	

25-8. Cleaning and Housekeeping Practices in the Workplace.

a. All equipment and working surfaces shall be properly cleaned and disinfected after contact with blood or other potentially infectious materials.

b. As with all bodily fluids, assume contamination (universal precautions) and wear protective gloves.

c. A bodily fluid disposal kit is recommended. This kit should contain fluid cleanup materials such as an absorbent powder, a disinfectant solution, and a disposal bag. The powder may be sprinkled on liquid body fluids, such as blood. When the powder absorbs the fluid, it can be scooped up and placed in the disposal bag.

d. A solution of 1/4 cup of bleach per gallon of water may be used to decontaminate the surfaces. Wipe down all surfaces with the disinfectant solution in order to ensure that all bloodborne pathogens are killed.

e. Dispose of all contaminated gloves, towels, rags, absorbent powder, etc. Place in a plastic bag and place this in another plastic bag and tie the bag as needed. This may be disposed of into a dumpster after the bag is sealed.

f. Always use mechanical means such as a brush and a dust pan, vacuum cleaner, or another tool to pick up contaminated broken glassware; never pick up with hands even if gloves are worn.

25-9. Equipment in the Health Care Environment.

a. Instruments and devices that enter sterile tissue or the vascular system of any patient or through which blood flows should be sterilized before use.

b. All bins, pails, cans, and similar receptacles intended for reuse which have a potential for becoming contaminated with blood or other potentially infectious materials shall be inspected, cleaned, and decontaminated on a regularly scheduled basis. They shall also be cleaned and decontaminated immediately upon visible contamination.

c. Warning labels shall be affixed to containers of infectious waste, refrigerators, and freezers containing blood or other potentially infectious material, or other containers used to store or transport blood or other potentially infectious materials. The labels shall be fluorescent orange or orange-red predominantly so, with lettering and symbols in contrasting colors, using the accepted biohazard label. The label shall either be an integral part of the container or shall be affixed as closely as safely possible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal. Red bags or red containers may be substituted for labels on containers of infectious waste. Regulated waste will be sent to Dunham Clinic at Carlisle Barracks by courier monthly.

25-10. Employee Exposure.

a. Once an exposure has occurred, a blood sample will be drawn after consent is obtained from the source individual unless identification is not possible. It will be tested for hepatitis B surface antigen and anti-body to human immunodeficiency virus as soon as feasible.

b. State and local laws regarding consent for testing source individuals shall be followed. If consent is not obtained, establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, their blood, if available, shall be tested and the results documented.

c. Pre-test counseling, post-test counseling, and referral for evaluation and treatment will be provided. Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

d. For an exposure from an individual found to be positive for hepatitis B, an employee who has not previously been given a hepatitis B vaccine should receive the vaccine series.

e. A single dose of hepatitis B immune globulin will be given within seven days of an exposure. If the employee has previously received the vaccine, they will be tested for antibody to hepatitis B surface antigen and be given one dose of vaccine and one dose of immune globulin if the antibody level in the blood sample is inadequate.

f. For an exposure from an individual who has AIDS, who is found to be positive for HIV, or refuses testing, the worker should be counseled regarding the risk of infection and evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure. The employee will be advised to report for medical evaluation for any acute illness that occurs within 13 weeks after the exposure.

25-11. Medical Evaluation after an Exposure.

a. The evaluating physician of the exposed employee should have a copy of the OSHA Standard, 29 CFR 1910.1030, a description of the employee's duties as they relate to the exposure, a description of any PPE that was used or to be used, documentation of the route of exposure and the circumstances under which the exposure occurred, the results of blood tests when available, and all medical records relevant to the appropriate treatment of the employee.

b. The evaluating physician shall provide a written copy of his or her evaluation for the employee's health record. A copy will also be provided to the employee within 15 days after the evaluation.

c. Employees with impaired immune systems resulting from HIV infection or other causes are at an increased risk of acquiring or experiencing serious complications of infectious disease. Of particular concern is the risk of severe infection following exposure to patients with infectious diseases that are easily transmitted if appropriate precautions are not taken.

Table 25-2. Bloodborne Pathogens Treatment Protocol.

Source Risk	Patient Status	Initial Treatment	Clinic Action	√
Hepatitis B Known Positive or High Risk	Completed HBV shots or HepB immune	None	Ensure source is referred to physician or designated MD for action.	
	Completed HBV but never tested for Aniti-HBs	None	Ensure source is referred to physician or designated MD for action.	
	Unvaccinated or has not completed HBV series.	Give HBIG	Initiate/complete HBV series. Check patient in 6 months. Refer source to physician or designated MD for action.	
Hepatitis B Known Negative or Low Risk or Source Unknown	Completed HBV series	None	None for Patient. If source tests positive refer to physician or designated MD for action.	
	Unvaccinated or has not completed HBV series	None	If sources tests positive follow as above for treatment.	
Hepatitis C, Known Positive or High Risk	Anti-HVC known positive	None	None for patient. If high risk source test positive refer to physician or designated MD for action.	
Hepatitis C, Known Negative or Low Risk or Source Unknown	Anti-HCV known positive	None	None for patient. If source tests positive, refer to physician or designated MD for action.	
	Anti-HCV known negative or status unknown	None	If source tests positive and patient tests negative, order anti-HCV and ALT on patient in 4 to 6 months. Refer source to physician or designated MD for action.	

Chapter 26

Miscellaneous Requirements

26-1. Purpose. Provide additional guidance on not previously covered equipment and processes.

26-2. Responsibilities. Commander, directors, and supervisors will ensure general safety requirements outlined are fully integrated into all activities and operations.

26-3. Equipment Safety Devices.

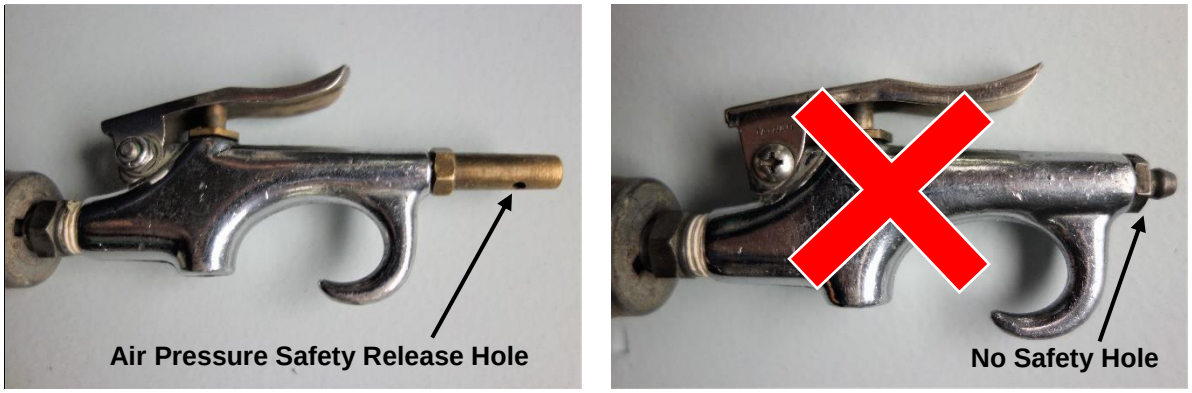
a. No safety device will be altered or bypassed without written permission from the original equipment manufacture or an appropriately qualified engineer and the Safety Office.

26-4. Requirements for Miscellaneous Operations.

a. Bench grinders: All abrasive wheel bench and stand grinders will be provided with safety guards which cover the spindle ends, nut and flange projections, and are strong enough to withstand the effects of a bursting wheel. An adjustable work rest of rigid construction will be used on floor and bench mounted grinders, with the work rest kept adjusted to a clearance not to exceed 1/8 inch between rest and the surface of the wheel. All abrasive wheels will be closely inspected and ring-tested before mounting to ensure that they are free from defects. Machines designed for a fixed location will be securely anchored to prevent movement. Clearance for the tongue should not exceed 1/4 inch.

b. Compressed Air: Compressed air used for cleaning and drying purposes is permitted only when all other methods have failed. Where feasible, items to be cleaned by air should be moved to an enclosure with mechanical exhaust. Each air hose will be equipped with a nozzle designed to release air pressure harmlessly when the nozzle is directed against a restricting surface (Figure 26.1). Maximum air pressure is 30 pounds per square inch (PSI). Compressed air will not be used for cleaning or drying of personnel.

Figure 26-1. Air Nozzle Tip Examples.



c. General Safety Measures for Paint Operations:

(1). This provides general safety guidance applicable to LEAD paint operations in all LEAD locations.

(2). Storage of materials in and around paint spray booths.

(a). Only paint spray booth equipment, production assets, and materials staged for immediate usage, and are part of the paint operation, may be stored within 3 feet of each paint spray booth. Materials not part of the spray booth operation or not staged for immediate usage shall be separated from such operations by a distance of 3 feet or greater.

d. Mosquito Breeding Ground Awareness:

(1). This provides general awareness and steps to take to remove potential mosquito breeding grounds.

(a). Eliminating standing water from property by cleaning debris and emptying and turning over containers that could collect water.

(b). Special emphasis should be placed on the accumulation of water in new and used tires on LEAD. These areas become ideal mosquito breeding grounds and should be removed in a timely manner. If unable to remove they must be inspected and emptied weekly.

e. Fossil Fuel Fumes:

(1). The purpose of this section is to provide guidance to prevent the excessive accumulation of fossil fuel fumes within industrial buildings. By reducing the amount of fossil fuel fumes within a building, it will decrease the likelihood of employee exposure to the hazardous fumes and the associated health risks caused by fossil fuel fume exposure.

(2). Applicability:

(a). The requirements of this section apply to fossil fuel powered production assets including but not limited to; military generators, RCVs, HEMTTS, all-terrain forklifts, 2-1/2 ton and 5 ton trucks, and HMMWVs.

(b). The requirements of this section DO NOT apply to production support equipment such as fossil fuel powered forklifts, man lifts, gators, tow trucks, tugs, or GSA vehicles.

(3). Fossil fuel powered production assets will only be operated within an industrial facility for the purposes of positioning a production asset for repair. Examples include driving the vehicle into the building to begin maintenance, driving the vehicle between work cells, or driving the vehicle out of the building after maintenance has been completed.

(4). All other operations of fossil fuel powered production assets will be completed using a powered ventilation system. Examples of these operations include but are not limited to: troubleshooting, building of air pressure, or bleeding of hydraulics or brake lines. These operations will only be completed inside if powered ventilation systems are in use; otherwise, operation will be completed outside.

(5). Due to the negative pressure of LEAD's industrial buildings, outside operations of production assets will be at least 50 feet from an open overhead or personnel door (summer) or 10 feet from a closed overhead or personnel door (winter).

f. Food/Beverage Storage, Preparation, and Consumption:

(1). Appliances used to store or prepare food such as coffee pots, toasters, refrigerators, and microwaves may only be used in office areas, break rooms, or designated industrial break areas. These appliances will not be used in industrial work areas. Storage of these appliances in a cabinet or tool box in an industrial shop is also not permitted.

(2). Refrigerators and freezers used for industrial processes such as storage of chemicals with cold storage requirements or cooling of parts may be present in an industrial shop so long as the refrigerator or freezer is clearly labeled "No Food" and food/drinks are not permitted in the appliance.

(3). Beverages may be consumed within a work area when a lid is applied, unless the work area is near hazardous chemicals or processes. Consumption, however, should be kept to a minimum and not cause interruptions to the cost center. Food products shall only be consumed in designated break areas/lunch rooms.

(4). Trash cans will be managed to prevent unsanitary conditions. If an unsanitary condition occurs, trash cans will be emptied daily or covered with a lid.

26-5. Safety Communication Binder.

a. The safety communication binder will consist of one 3-ring binder with a clear protective pocket on the front of the binder. The front of the binder will be labeled in large print with the words “Safety Communication Binder,” the cost center, the locally designated work area name, and the date of the last update made to the binder. Additional information is optional. Electronic safety communication binders are allowed if there is no administrative barrier for employees who wish to review the binder.

b. Each cost center or independent work area will maintain a safety communication binder. The binder will be kept in a clearly visible location, which is regularly frequented by the employees affected by the contents of the binder. Supervisors who maintain multiple buildings should consider having additional safety communication binders for each building to make available to employees for review. This should be considered on a case by case basis. The minimum contents of the communication binder will include the items listed below. Each binder will contain a table of contents and numbered or lettered dividers which clearly organize and communicate the contents of the binder. The information provided by the Safety Office as well as samples of cost center provided information may be found on the Safety Office portal page.

(1). Information provided by the Safety Office:

(a). Tab 1: Safety communication binder standing operating procedure (SOP).

(b). Tab 2: Injury reporting procedures.

(c). Tab 3: Commander’s Safety and Health Policy.

(d). Tab 4: OSHA poster, DD Form 2272.

(e). Tab 5: Current OSHA 300 log (only between 1 Feb to 30 Apr).

(f). Tab 6: Instructions on how to access the Safety Meeting Central (SMC). It is recommended that a signup sheet or roster of the employees who will be leading future safety meetings be placed within this section.

(g). Tab 7: Rewards and discipline concerning employee conduct as it relates to safety.

(h). Tab 8: Supervisor’s guide to safety at LEAD.

(i). Tab 9: Notice to Employee, NRC Form 3 (only in areas that contain radioactive material).

(j). Tab 10: DA Poster 40-501A.

(k). Tab 11: OHSAS 18001 and VPP Information

(l). Tab 12: AMLD Form 4596 Facility Hot Work, Flame, or Heat Producing Permit.

(m). Information provided by the Industrial Hygiene Office:

1. Tab 13: Industrial Hygiene reports (if applicable).

(n). Information provided by the cost center supervisor:

1. Tab 14: Safety Office contact information and cost center POC list.

2. Tab 15: General PPE requirements (cost center specific).

3. Tab 16: Smoking, eating, and drinking policy.

4. Tab 17: Fire evacuation plan (Must meet guidance of NFPA 101 and ASTM E2238-12).

5. Tab 18: Base Response Plan/Emergency action plan.

6. Tab 19: Lockout/Tagout (LOTO) procedures for the cost center. A Memorandum For Record (MFR) identifying all LOTO authorized (user level trained) employees within the cost center, a list of all LOTO locks by serial number and assignment, if necessary, and a list of all individuals with access to the key box containing duplicate lockout lock keys. A copy AMLD Form 3635-R for all equipment within the cost center requiring it. Each AMLD Form 3635-R will have the following sections completed prior to placing them into the binder: LOTO procedures for, specific machine or equipment, types of stored energy, and method to dissipate/retrain. If the cost center does not utilize a LOTO plan, a memorandum will be placed within this Tab as per the sample documents on the safety portal.

7. Tab 20: Cost center JSAs. (If a cost center has a low quantity of JSAs, they may be placed within the safety communication binder. If this is the case, the binder WILL be maintained on the production board in place of a standalone JSA binder. If the JSAs will not fit within the safety communication binder, they may be kept separate with the JSA binder remaining on the production board and the safety communication binder being placed in another clearly visible location which is visited regularly by affected cost center employees). A completed copy of AMLD Form 4161 will be maintained with the posted JSAs.

8. Tab 21: Cost Center Self-Assessment Checklists: All Cost Centers will perform a self-assessment of their safety compliance IAW LEAD-R 385-1 by using all applicable safety checklists. The LEAD Safety Office will provide guidance on when each checklist will be completed. The self-assessment will help identify issues within the Cost Center and will provide guidance on the regulation

9. Tab 22: Commanders Risk Management Policy Letter and Cost Center Completed DD Form 2977.

(o). Additional information that may prove useful to the cost center but is not required.

1. Cost center safety inspection information such as when the months safety inspections are due and area inspection hazard report form and checklists (AMLD 4294, 4614, 4614-1, and 4614-2).

2. Open hazard reports from HRP. Once the hazard has been abated, the report could be removed.

26-6. Special Requirements.

a. Jewelry, regardless of material (rings, watches, bracelets, long loose necklaces) and loose fitting clothing will not be worn when working with machinery, electrical equipment, lifting and climbing, or any other activity that would be considered hazardous to the employee should these articles come in contact with or catch while performing these activities.

b. Earbuds and Headphones: Earbuds and headphones to personal listening devices will not be worn while:

(1). Walking or jogging on roadways or in areas where mechanized equipment is operated to include forklifts, tractors, and other material handling equipment.

(2). While operating equipment, motor vehicles, and bicycles.

(3). While in an industrial area.

c. Protective helmets must be worn when operating bicycles on LEAD (this includes inside an industrial area, i.e. bldg. 350 ASRS personnel, etc.).

d. Personal electronic devices (cell phones, tablets, portable video games, etc.) or other distracters (games, books, newspapers, etc.) that may distract an employee from their primary task and would place an employee at risk will be prohibited during tasks such as; machine operations, traversing through industrial areas, or working near other employees engaged in industrial activities. This includes all operations where employees are in close proximity to hazardous operations.

26-7. Racking Systems.

a. This provides guidance to all LEAD cost centers on the establishment and labeling of racking systems that are designed to be loaded or unloaded by material handling equipment. Industrial Storage Racks must meet the minimum design requirements of the American National Standards Institute (ANSI) MH16.1. Examples include but are not limited to: pallet racks and cantilever racks. This bulletin does not apply to racking systems that are designed to be loaded by hand such as gravity racks and bread style racks.

b. Location and Lagging of racks:

(1). All applicable racks will be placed on level concrete and will be lagged to the concrete. Each of the four legs must be lagged with lag bolts that meet or exceed the manufacturer's recommendations.

(2). Racks may not be placed on dirt, asphalt, or uneven ground as these surfaces do not provide an adequate base for racks to be secured.

c. Weight capacity

(1). The weight capacity of each horizontal shelf will be labeled with the weight capacity of each shelf. Racks that are already labeled with a weight capacity, regardless of size or location of the label, will be accepted as is. New racks or racks that have yet to be labeled will be labeled as follows: the size of the weight capacity label should be at least 1 inch tall and the label should be placed to the far left hand side of the horizontal beam while facing the beam.

(2). Areas, such as warehouses, with multiple quantities of the same style racking system may be labeled with large signs at the entrance of each aisle way or section. The signs must be easily seen by equipment operators.

(3). In order to prevent racks from being overloaded, individual cost centers will maintain a list of parts and material that would either individually or jointly exceed the weight limit of a beam. This list will be provided to all licensed forklift operators within the cost center. Operators will also be briefed on the capacity of individual racks based on different weight capacities to further prevent the overloading of racks.

(4). If cost centers have a scale within their area of operation, they do not need to maintain a list of parts as long it is commonly understood by all equipment operators that they will monitor the weight of loads being placed on racks.

(5). Rack inspections and modifications:

(a). Racking systems will be inspected regularly by each cost center. Racks with questionable damage will be evaluated by an engineer and/or safety specialist. Documentation from an engineer and/or safety specialist will be maintained by the cost center on all racks that remain in service that are damaged or are in questionable condition.

(b). ANY modification to a racking system will be approved by the manufacturer or LEAD engineer. Documentation will be maintained by the cost center until the racking system is removed from service.

26-8. Pallet Stacking

a. Pallets inside or outside of a LEAD buildings shall not be stacked higher than 6 feet.

b. Pallets shall not be stacked in walkways or aisles where they encroach on normal egress paths.

Chapter 27

Contractor Safety

27-1. Purpose. To establish requirements for contractors performing work on LEAD.

27-2. Policy. Contractor/Subcontractor will:

a. Conduct work on Letterkenny Army Depot in compliance with the most current version of 29 CFR 1910 and 29 CFR 1926 (where applicable). Each contractor/subcontractor will be familiar with the types of work they are expected to perform and each particular phase of the operation and associated hazards. All worksites will be free of recognized hazards.

(1). Each worksite will be assessed for hazards prior to the start of work. All training certifications and an Activity Hazard Analysis (AHA) will be on hand at the job site.

(2). Any and all on site work at LEAD shall be completed in accordance with applicable OSHA, DoD, Army, and LEAD Safety requirements. As a federal installation, additional requirements other than OSHA apply to contractors performing work at LEAD. Examples include: full conformance to all applicable NFPA standards, ANSI standards, and other consensus standards for the industry covered by the subject contract. It is the responsibility of the contractor to be familiar with all applicable standards prior to starting work. Additionally, the contractors shall make themselves familiar with and comply with LEAD's local safety regulation LEAD-R 385-1 prior to the start of any work at LEAD.

(3). A list of all hazardous materials will be maintained at all times. All Safety Data Sheets (SDS) will be present and maintained at all worksites. A copy of all SDS’s will be provided to the Safety Office at the beginning of all projects.

(4). No person shall detonate explosives in any blasting operation unless he or she is licensed as prescribed by the Pennsylvania Department of Labor and Industry. The contractor or agency performing the blasting will coordinate all work with the Chief of Fire and Emergency Services, Directorate of Public Works, and the Safety Office. The information will be provided in sufficient time, informing each of the date, place, and time blasting is to be done, along with method and types of explosives to be used. The Commander of LEMC will be notified prior to any blasting operations within the restricted ammunition area.

b. Immediately notify and promptly report to the COR (Reports will not exceed 2 hours) any accident, incident, or exposure resulting in a fatality, lost time occupational injury, occupational illness, contamination of property, or property damage or loss resulting from work performed under the contract. In addition, all contractors on-site for 90 days or more will provide to the COR: quarterly reports specifying OSHA Total Case Incident rates (TCIR), OSHA Days Away, Restricted or Transferred rates (DART), the man-hour use for TCIR/DART, hazards identified and reported, highlighting hazards corrected, and any reported near misses. TCIR/DART rates will be periodically reviewed by the LEAD Safety Office for analysis of trends.

c. Designate construction and high hazard work zone boundaries by identifying them as restricted areas. High visibility, weather resistant signs that meet the intent of the following elements shall be posted at access points.

(1). Danger active construction/high hazard work zone.

(2). Authorized personnel only. Do not enter without permission.

(3). Contact name and number for entry.

Appendix A
References

(CFR) Part 1910.133.

10 CFR Part 20.1901,1904,1905

29 CFR 1910

29 CFR 1926

32 CFR 634.41

41 CFR 101-39.401

49 CFR

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ANSI J6

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ANSI Z87.1

ANSI Z89.1

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ANSI/SAIA A92.22

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AR 11-9

AR 25-22

AR 75–1

AR 190-51

AR 210- 20

AR 385-10 The Army Safety Program

AR 385-26

AR 600-55

AR 600-55

AR 735-5

AR 1134

ATP 4-35.1

ATP 5-19

CGA-7

DA PAM 385-10 Army Safety Program

DA PAM 385-24

DA PAM 385-30 Risk Management

DA PAM 385-40

DA PAM 385-61

DA PAM 385–63

DA PAM 385-64

DA PAM 385-65

DA PAM 40-2

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DA PAM 40-506

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UFC 3-301-01

US Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide 144 (TG 144)

US Army Environmental Hygiene Agency Technical Guide No. 153