White Sands Missile Range Regulation 385-18

Safety Directorate

The White Sands Missile Range Command Safety Program

Headquarters
White Sands Missile Range
White Sands Missile Range, NM
Dated: 3 December 2015
MEMORANDUM FOR Team White Sands

SUBJECT: White Sands Missile Range Command Safety Program (WSMR Regulation 385-18)

1. This regulation implements the commander's occupational safety and health policy through the use of rules developed to protect and preserve personnel and property against injury or accidental loss while conducting operations at White Sands Missile Range (WSMR). The occupational safety and health rules and requirements in this safety program are applicable to all military and civilian personnel, including activities and contractors under the cognizance of this command. The guidelines contained in this document shall be used in conjunction with the WSMR Safety Action Plan as safety guidance on all matters of safety. These instructions are not intended to supersede those directives issued by higher authority unless specifically so stated. Any conflicts with such directives shall be referred to the Installation Safety Office (ISO).

2. The occupational safety and health rules and requirements in this safety program are applicable to all military and civilian personnel, including activities and contractors under the cognizance of this command.

3. Point of contact for this document is the Installation Safety Director, Mr. Randy Grunow, and he can be reached at Commercial: (575) 678-2305, DSN 258-2305.

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Brigadier General, USA
Commanding
# WSMR RREGULATION
## NO. 385-18*

### CHAPTER 1 - WHITE SANDS MISSILE RANGE COMMAND SAFETY PROGRAM
1-1 PURPOSE
1-2 APPLICABILITY
1-3 CONFLICTS
1-4 REFERENCES
1-5 RESPONSIBILITIES

### CHAPTER 2- SAFETY COMMITTEES AND SAFETY MEETINGS
2-1 REQUIREMENTS
2-2 SAFETY COMMITTEES

### CHAPTER 3- RANGE SAFETY
3-1 RESPONSIBILITIES

### CHAPTER 4- GENERAL WORKPLACE SAFETY
4-1 RESPONSIBILITIES
4-2 GENERAL SAFETY PRACTICES
4-3 SAFETY AND OCCUPATIONAL HEALTH INSPECTIONS
4-4 SAFETY AND OCCUPATIONAL HEALTH ASSESSMENTS
4-5 HAZARD ANALYSIS

### CHAPTER 5- SAFETY AWARD PROGRAM
5-1 GENERAL
5-2 AWARDS PROGRAM
5-3 RESPONSIBILITIES
5-4 PRESENTATION
5-5 AWARDS
CHAPTER 11- LOCKOUT AND TAGOUT PROCEDURES ........................................... 51
11-1 REQUIREMENTS ....................................................................................... 51
11-2 RESPONSIBILITIES ................................................................................. 51

CHAPTER 12- ELECTRICAL AND ELECTRONICS ........................................... 53
12-1 REQUIREMENTS ....................................................................................... 53
12-2 RESPONSIBILITIES ................................................................................. 53

CHAPTER 13- CONFINED SPACE ENTRY ....................................................... 57
13-1 GENERAL SAFETY REQUIREMENTS FOR CONFINED SPACE OPERATIONS ......................................................................................................................... 57
13-2 SPECIFIC SAFETY LIMITATIONS ON CONFINED SPACE ENTRY ....... 57
13-3 RESPONSIBILITIES ................................................................................. 57
13-4 DELEGATION OF CONFINED SPACE ENTRY AND WORK AUTHORITY .... 58
13-5 OPERATIONAL AND ADMINISTRATIVE REQUIREMENTS FOR ENTRY INTO CONFINED SPACES ................................................................................................................................. 59
13-6 OPERATIONAL AND ADMINISTRATIVE POINT OF CONTACT IF YOU HAVE ANY FURTHER QUESTIONS ................................................................................. 60

CHAPTER 14- AMMUNITION AND EXPLOSIVES SAFETY ......................... 61

CHAPTER 15- CHEMICAL AND LABORATORY SAFETY ............................... 62

CHAPTER 16- RESPIRATORY PROTECTION PROGRAM .............................. 63
16-1 POLICY ...................................................................................................... 63
16-2 RESPONSIBILITIES ................................................................................. 63

CHAPTER 17- AVIATION SAFETY PROGRAM .............................................. 68
17-1 RESPONSIBILITIES ................................................................................. 68

CHAPTER 18- VISION CONSERVATION AND FACE PROTECTION .......... 69
18-1 REQUIREMENTS ....................................................................................... 69

*This document supersedes WSMR 385-18 RAR 02 Feb 12
CHAPTER 26- ARMY MOTOR VEHICLE AND GOVERNMENT OPERATED VEHICLE ACCIDENT PREVENTION PROGRAM ................................................................. 98
26-1 PURPOSE .................................................................................... 98
26-2 POLICY .................................................................................... 98
26-3 RESPONSIBILITIES ................................................................. 99
26-4 TRAINING ................................................................................. 100

CHAPTER 27- USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE) DURING HIGH HAZARD OR MANNED FIRING TRAINING, TEST AND EVALUATION ....... 102
27-1 PURPOSE .................................................................................... 102
27-2 POLICY .................................................................................... 102
27-3 RESPONSIBILITIES ................................................................. 102
SUMMARY OF CHANGES

WSMR Regulation 385-18, RAR 02 Feb 12, White Sands Missile Range Command Safety Program

- Clerical and administrative changes throughout.
- [Chapter 1-5, a. (5)] Commanders or their representative shall initiate Army Readiness Assessment Program (ARAP) survey within 90 days of assumption of command.
- [Chapter 1-5, c. (9)] Supervisors shall, when required complete an Abbreviated Ground Accident Report (AGAR) through REPORTIT, the Army’s online reporting tool.
- [Chapter 4-1, b. (3)] Directors/Team Leaders shall ensure that all Job Hazard Analysis are reviewed annually and revised accordingly.
- [Chapter 4-1, h. 7. (4) 1] Adds conducting fuel delivery and dispensing operations to examples of hazardous work tasks that require use of the Two Person Rule.
- [Chapter 4-2, q.] Directors/Team Leaders shall ensure “Competent Persons”, when required by OSHA standards are provided to the organization.
- [Chapter 4-5] Includes mandatory inclusion of Hazard Analysis process for all proposed testing program at WSMR.
- Updates to Chapter 6, Hazardous Communication Program (HAZCOM), in accordance with recent changes to OSHA 29 CFR 1200, Hazardous Communication Program standard.
- Updates to Chapter 7, Accident Reporting and Records.
- [Chapter 8-2 d.] Human Research Protection Plan, (HRPP) reviews are required for all SOPs related to test activities.
- Chapter 15, Chemical and Laboratory Safety program establishes point of contact as Industrial Hygiene Section, McAfee Clinic.

*This document supersedes WSMR 385-18 RAR 02 Feb 12*
[Chapter 16-1 i.] Requires all personnel who choose to use a government issued respirator when one is not required (voluntary) will be included in the installation’s Respiratory Protection Program.

- Updates Chapter 23, Motorcycle, all terrain, and off-road vehicle safety.
- Appendix A- Updates safety references.
- Appendix C- Includes safety training requirements.
- Appendix E- Updates Job Hazard Analysis (JHA) Templates.
- Appendix H- Addition of MacAfee, Occupational Health Evaluation MFR.
- Appendix I- Updates MacAfee, Occupational Health Record of Injury.
- Appendix J- Updates WSMR Accident Investigation Form for non-recordable accidents.
- Appendix K- Updates Hazard Analysis and risk Management Worksheets.
- Appendix M- Includes WSMR Fall Protection Program/Handbook.
1) CHAPTER 1- WHITE SANDS MISSILE RANGE COMMAND SAFETY PROGRAM

1-1. PURPOSE: This regulation implements the Commander’s occupational safety and health policy through the use of rules developed to protect and preserve personnel and property against injury or accidental loss while conducting operations at White Sands Missile Range (WSMR). The occupational safety and health rules and requirements in this safety program are applicable to all military and civilian personnel, including activities and contractors under the cognizance of this command. The guidelines contained in this document shall be used in conjunction with the WSMR Safety Action Plan as safety guidance on all matters of safety. These instructions are not intended to supersede those directives issued by higher authority unless specifically so stated. Any conflicts with such directives shall be referred to the Installation Safety Office (ISO).

1-2. APPLICABILITY: The occupational safety and health rules and requirements in this safety program are applicable to all military and civilian personnel, including activities and contractors under the cognizance of this command.

1-3. CONFLICTS: The guidelines contained in this document shall be used in conjunction with the WSMR Safety Action Plan and Commander's Policy letters as safety guidance on all matters of safety. These instructions are not intended to supersede those directives issued by higher authority unless specifically so stated. Any conflicts with such directives shall be referred to the Installation Safety Office (ISO).

1-4. REFERENCES: See Appendix A.

1-5. RESPONSIBILITIES:

   a. TEAM WSMR: Team White Sands and officers-in-charge (Commanders, Directors or Acting Commanders or Directors) are responsible for maintaining a safe and healthful work environment for all employees and visitors. This shall include the following:

      (1) Establishment of adequate internal procedures and records for the administration, supervision, and evaluation of the organization’s safety program.

      (2) Written Standing Operating Procedures (SOPs) for all hazardous operations to include risk management of all hazards. All operations that the Fire Department and Police Department respond to shall have, Program of Instruction’s (POI’s), Field Manuals (FM’s) or SOP’s.

      (3) Prompt reporting of all injuries, mishaps, near misses and accidents to the ISO. Notification to the Commander and the ISO of any accident which results in a fatality, personnel injury, damage to Army property, any unplanned explosive event, or an explosive event that results in injury or property damage.

      (4) Ensure safety and health performance standards are critical elements in all supervisory performance plans.

      (5) Commanders or their representatives will ensure that all organizations initiate enrollment into the Army Readiness Assessment Program (ARAP) within 90 days of assumption of command. ARAP is a commander and/or directorate program used to
address the root causes of accidental loss by focusing on organizational safety climate and culture.

b. INSTALLATION SAFETY OFFICE (ISO): The ISO Director is responsible for the overall administration of the WSMR Safety Program and for dissemination of other applicable safety information to all personnel. Specifically:


(2) Administration of the Installation Accident and Injury Prevention Program as defined by this regulation.

(3) Preparation of safety rules and regulations for installation operations.

(4) Development of a safety and accident prevention training program with emphasis on supervisory, management and employee development.

(5) Review and approval of all plans and specifications for modification to and construction of White Sands facilities.

(6) Serving as the sole installation point-of-contact for WSMR safety matters involving the Department of Labor Occupational Safety and Health Administration (OSHA), DOD Explosives Safety Board, and higher headquarters in our chain of command.

(7) Performing workplace inspections or surveys of all WSMR facilities and operations.

(8) Exercising primary jurisdiction over all ionizing and non-ionizing radiation protection activities at White Sands.

c. SUPERVISORS: Supervisors are responsible for the safety and health of their personnel. Specific supervisory duties include:

(1) Follow the WSMR Safety Action Plan distributed by the Installation Safety Office.

(2) Providing a safe and healthful workplace for employees.

(3) Ensuring that operations in their work area are conducted in a safe manner by providing adequate training, supervision and documentation to employees.

(4) Ensuring that subordinates fully understand their individual safety responsibilities.

(5) Instructing new, transferred, temporary personnel, and personnel with disabilities in the safe performance of their duties.

(6) Incorporating safety into job planning through development of job hazard analyses and standard operating procedures.

(7) Reducing and eliminating workplace hazards.

(8) Ensuring that injured personnel receive prompt medical treatment.
(9) Promptly reporting all injuries, mishaps, and accidents to the organization’s Safety Coordinator, Director, and the ISO. When required complete an AGAR (Abbreviated Ground Accident Report) through REPORT IT, the Army's online accident reporting system. Report accidents per guidance as outlined in Chapter 6.

(10) Investigating all work related accidents, injuries, mishaps or near misses and requesting assistance as required.

(11) Enrolling employees in required medical surveillance programs.

(12) Correcting unsafe conditions reported by subordinates.

(13) Conducting and documenting monthly employee safety meetings.

(14) Briefing all personnel on new operations or hazards as they are introduced into the workplace.

(15) Providing Personal Protective Equipment (PPE) when required.

(16) Quarterly inspections of assigned buildings shall be conducted by the Supervisor or designated Safety Coordinator (except monthly for VPP Participants) and records are to be archived by the Supervisor and shall be made available upon inspection.

d. EMPLOYEES: Every individual is responsible for accomplishing one’s own work in a safe and healthful manner. Employees shall:

(1) Observe all safety procedures and precautions applicable to their work or duty.

(2) Follow SOPs and special procedures.

(3) Report all unsafe or unhealthful conditions and faulty equipment to their supervisors and organization safety coordinators.

(4) Use protective clothing or equipment that has been approved for the work being performed. Refer to Chapter 27 for use of Test Specific PPE.

(5) Immediately report all injuries, mishaps, accidents and near misses to supervisors.

e. CONTRACTING OFFICERS: Contracting Officers shall coordinate with the ISO and incorporate the safety requirements of and comply with this regulation in all contracts issued at WSMR. Additionally, COR’s must monitor contractors to assure that operations are being performed in a safe and healthful manner.

f. PROCUREMENT OFFICERS: Procurement Officer shall coordinate with the ISO to assure that safety requirements are incorporated in all procurements issued from WSMR in accordance with this regulation. (All procurements or contracts involving ionizing and non-ionizing radiation producing equipment shall be approved by the ISO.)

g. TEMPORARILY ASSIGNED PERSONNEL: All personnel temporarily assigned to WSMR shall comply with this regulation.

*This document supersedes WSMR 385-18 RAR 02 Feb 12*
CHAPTER 2- SAFETY COMMITTEES AND SAFETY MEETINGS

2-1. REQUIREMENTS:

a. The following standing committees are required by statutory or regulatory authority. Each will be discussed in the following paragraphs:

(1) The Installation Safety and Occupational Health Advisory Committee (SOHAC)

(2) The Federal Employees Compensation Act (FECA) Working Group

(3) The Installation Ergonomic Subcommittee (IES)

(4) The Directorate Safety Council

(5) The Radiation Safety Committee

b. Formally scheduled shop and workplace safety meetings are required at White Sands Missile Range. The minimum requirements for these meetings are:

(1) They will be held at the organization, workplace or shop level at least monthly, or more often as required.

(2) Relevant safety issues are presented, discussed, mitigated, and documented.

(3) Meetings will address and provide training for new work procedures or equipment implemented/obtained, or new workplace hazards that are introduced.

(4) They will be conducted by either the organization Safety Coordinator or the workplace supervisor.

(5) All unit or workplace/shop personnel must receive the scheduled safety briefings and presentations, or (in the event of absence) be informed of the topics discussed and provided copies of subject information.

(6) Supervisors or organization Safety Coordinators shall retain a record of all shop and workplace safety meetings for 1 year after the date of presentation. This record shall include the following:

(a) Attendance roster with the date of the meeting, topic(s) covered, and the name of presenters.

(b) Presentation outline used in the meeting and a copy of all handouts.

c. Shop and workplace safety meetings will not be used as an alternative or replacement for certification training of employees.

2-2. SAFETY COMMITTEES

a. The WSMR Installation Safety and Occupational Health Advisory Council (SOHAC)

(1) The SOHAC consists of the following members:

(a) The Commanding General/Executive Director (Chairman)
(b) Executive Director (Alternate Chairman)
(c) ATEC and Garrison Commanders (Co-Chairs)
(d) Commander, US Army McAfee Health Clinic
(e) Chief, Occupational Health
(f) Commander, Naval Air Warfare Center, WSMR
(g) Deputy for Air Force, WSMR
(h) Employee’s representatives (Unions)
(i) All WSMR ATEC /IMCOM Directors and Office Chiefs
(j) All activity Commanders
(k) ISO Director
(l) ISO Recorder

(2) Meets semi-annually or as directed by the Commander/Director.
(3) Provides oversight, evaluation and guidance for, and advocacy of, all programs related to safety and occupational health.
(4) Reviews unresolved topics from lower organizational level safety meetings (e.g. Employee Safety Committee, Directorate Safety Council, etc.)
(5) Makes recommendations to the Commander and performs additional tasks as the Commander directs.
(6) The Recorder will:
(a) Notify members of time and place of meetings.
(b) Promptly publish minutes.
(7) SOHAC members shall:
(a) Attend all scheduled meetings.
(b) Designate deputies to attend in lieu of member, however, delegation of attendance below the deputy level is not permitted.

(1) Coordinates and administers an effective worker’s compensation program through the review and evaluation of compensation claims.
(2) Consider alternatives to return employee to a working status.
(3) The members of FECA Working Group are:
(a) Chair, Installation Commander or his designated representative.
(b) Chief, Occupational Health, McAfee Health Clinic
(c) Director, Installation Safety Office
(d) Administrator, Federal Employee Compensation Act (FECA),
(e) Representative, Directorate Human Resources  
(f) Representative, Management Employee Relations, Civilian Personnel Advisory Center (CPAC)  
(g) Representative, Employees with Disabilities, Equal Employment Opportunity (EEO)  

c. The Installation Ergonomic Subcommittee (IES) interfaces with the FECA Working Group for workplace ergonomic intervention -- workplace analyses, hazard prevention and control, health care management, education and training.  

(1) The members of the IES are:  
   (a) Chief, Industrial Hygiene, McAfee Health Clinic (Chair),  
   (b) Director, Installation Safety Office  
   (c) A representative, Management Employee Relations  
   (d) A representative, Directorate Human Resources, Civilian Personnel Advisory Center (CPAC)  
   (e) A representative, Federal Employee Compensation Act (FECA), Administrator  
   (f) A representative, Employees with Disabilities, Equal Employment Opportunities (EEO)  

d. Radiation Safety Committee (RSC): The RSC is an advisory committee to the Commander/Director, White Sands Missile Range, in all matters pertaining to the Radiation Safety Program (RSP).  

(1) The RSC will meet once a quarter and consist of the following members:  
   (a) Commander/Executive Director (Ex officio member)  
   (b) Director, Installation Safety, (Chairman)  
   (c) Test Center Safety Office, Chief (Alternate Chairperson)  
   (d) Installation Radiation Safety Officer (Recorder)  
   (e) Chief, Occupational Health/Industrial Hygiene  
   (f) RSO, Radiation Protection Office  
   (g) Garrison, Radiation Safety Officer  
   (h) RSO, Test Measurement and Diagnostic Equipment Support, Region 3  
   (i) Army Research Laboratory  
   (j) High Energy Laser System Test Facility  
   (k) Naval Air Warfare Center, WSMR  
   (l) Deputy for the Air Force, WSMR  
   (m) Local 2049 (NFFE) Union representative  
   (n) Inspector General (Observers)  

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(o) Staff Judge Advocate (Observers)
(p) Director, Public Safety
(q) Transportation Officer
(r) UXO handling and disposal contractor representative
(s) Test Center support contractor Safety Officer

(2) All members are expected to attend all regularly scheduled meetings. However, in the absence of other members or in the case of necessity for quick reaction, as a minimum, the following members, or their representatives will constitute a quorum:

(a) Installation Radiation Safety Officer
(b) Chief, Occupational Health/Industrial Hygiene
(c) Director, ISO
(d) Garrison Radiation Safety Officer
(e) RSO, Radiation Protection Office

(3) The RSC will not exercise the functions of:

(a) A clinical committee on radioisotopes in a medical facility
(b) The Reactor Safety Committee

e. Directorate Safety Council: All White Sands Missile Range Directors shall establish a Directorate Safety Council consisting of a representative from each organizational unit within the directorate.

(1) The council shall meet periodically to:

(a) Review recent lost time and first aid injuries, accidents, mishaps, incidents and recommend countermeasures.
(b) Review safety suggestions from committee members and personnel at the operating level and take action where possible.
(c) Prepare minutes and keep on file.
(d) Invite ISO to attend meetings.
(e) Publish meeting dates in advance to enable all employees to submit requests, concurrence, comments, or recommendations.

(2) Each directorate shall appoint at least one Safety Coordinator to provide liaison with ISO and continuity of the director’s safety program. The safety coordinator shall:

(a) Schedule and chair directorate safety meetings at least monthly or more often as needed.
(b) Attend a collateral duty safety officer's course or equivalent or completion of online training available through US Army Safety Center.

*This document supersedes WSMR 385-18 RAR 02 Feb 12*
(c) Work closely with ISO in hazard recognition, record keeping, countermeasures, work site inspections, and conduct safety meetings.

(d) Assist the Installation Safety Office with accident investigations within their directorate by: identifying victims, collecting names of witnesses, obtaining SOPs, TM's and other needed material.

(e) Promote safety by copying and distributing safety promotional items, posters, countermeasures, etc., for their organization.

(f) Establish a safety bulletin board which should have the following mandatory items:

1. DD Form 2272, Department of Defense Safety and Occupational Health Protection Program.

2. DA Form 4755, Employee Report of Alleged Unsafe or Unhealthful Work Conditions.

3. OSHA 3165, Employee and Employer Rights and Responsibilities.

4. Command Safety Policy Letters available through WSDM SharePoint or upon request from ISO.

5. Form CA 10, What A Federal Employee Should Do When Injured At Work.

6. OSHA Form 300A Log, Summary of Work-Related Injuries and Illness. Post beginning 01 February to 30 April of each calendar year.
CHAPTER 3- RANGE SAFETY

3-1. RESPONSIBILITIES:

a. The Commander will appoint qualified range control personnel to monitor and enforce range safety and operational requirements commensurate with AR 385-63 and ATECR 385-1.

b. The Range Control Officer and personnel shall:
   (1) Enforce the installation range safety program.
   (2) Publish local SOPs for the safe operation and use of range and facilities (i.e., how a given range should be operated to comply with Range Control guidance).
   (3) Ensure ranges are policed and maintained to include maneuver areas and training facilities.
   (4) Notify McAfee, installation personnel and public of firing and exercises involving possible hazards to the public.
   (5) Survey and post range boundaries and off-limit areas to prevent trespassing and entry by unauthorized personnel into surface danger zones and impact areas.
   (6) Ensure explosive ordnance disposal (EOD) has cleared the ranges of duds from ranges before allowing people to enter.
   (7) Coordinate with Garrison DPTMS to post range guards, barriers, limit of fire markers, and signals.
   (8) Establish and maintain detailed records that describe the range areas and boundaries, including detailed permanent charts and overlays.
   (9) Provide information on the types and amounts of ammunition fired into the range areas.
   (10) Record known or estimated number of duds located in range impact areas.
   (11) Educate all on-post and off-post personnel on the dangers of trespassing in impact areas and the handling of unexploded ordnance (UXO) or duds. A video providing the current UXO Range Hazards Briefing is available on the Safety Office link located on the White Sands Missile Range Home Page.
   (12) Clear temporary impact areas.
   (13) Perform other duties and activities related to safe operation of ranges.
   (14) Coordinate with Garrison DPTMS.

c. Installation Safety Office shall:
   (1) Monitor the enforcement effectiveness of the installation range safety program.
   (2) Review, make recommendations and approve SOPs for the safe operation and use of ranges and training facilities.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(3) Assist and review training programs for on-post and off-post personnel.

(4) Review all construction drawings prior to any digging or trenching on the range.

(5) Quality Assurance Specialist, Ammunition Surveillance (QASAS) will investigate incidents or accidents involving weapons or ammunition with firing units in accordance with (IAW) AR 75-1.

d. Material Test Directorate (MT) shall:

(1) Provide dud information on the types and amounts of ammunition fired into impact areas to range control personnel upon request from the safety office.

(2) Survey and establish boundaries for all hazardous UXO areas.

(3) Provide and maintain detailed records including charts and overlays to range control personnel.

(4) Clear all impact areas.

e. UXO handling and Disposal contractor shall:

(1) Support MT personnel by destroying UXO.

(2) Assist MT in surveying and establishing boundaries of all UXO areas.

f. EOD contractor shall perform Phase I and Phase II responses.

g. Public Affairs Office shall:

(1) Provide safety awareness training information to the local community when visiting the installation.

(2) Serve as liaison between the local community and the range.

h. Directorate of Emergency Services shall be the lead in prevention of:

(1) Unauthorized personnel entering the range.

(2) Personnel trespassing on target range during a mission.

(3) Unauthorized personnel handling or removal of UXO (duds).
CHAPTER 4- GENERAL WORKPLACE SAFETY

4-1. RESPONSIBILITIES: All personnel are responsible for maintaining a safe, healthy and hazard-free work environment.

   a. The Installation Safety Office (ISO) shall:

      (1) Inspect all work places periodically based on the degree of hazards present.

      (2) Conduct inspections of work places with or without notice. No-notice inspections will be used when it is determined by the Director, ISO, that a significantly more meaningful assessment of actual operating conditions and practices will be gained.

      (3) Confiscate or render useless equipment or items that, if left at the work site, could cause a significant unsafe or unhealthful condition for an employee (i.e., unsanitary or worn-out (defective) respirators, electrical cords, etc.) and notify the supervisor if possible.

      (4) Coordinate with supervisors and/or appointed Safety Coordinators to accompany ISO inspectors during the physical inspection of the workplace. Union representatives are allowed to accompany civilian employees and inspectors during inspections.

      (5) Invite Occupational Health, McAfee Health Clinic, to participate in inspections when appropriate.

      (6) Provide employees the opportunity to discuss and identify unsafe and unhealthful working concerns or conditions without fear of retribution. Employees can request to remain anonymous. Guidance for "Complaints by Employees" is provided in 29 CFR 1903.11.

      (7) Stop any operation, work process, etc., that is considered “Immediately Dangerous to Life and Health” (IDLH) and report to the Installation Safety Director.

      (8) Provide written notification of any deficiencies, inspections, or recommendations to the head of the organization inspected.

      (9) Ensure all “Employee Report of Alleged Unsafe or Unhealthful Working Conditions”, DA Form 4755 (Appendix B), are investigated and written results of investigation are provided to the originator within 10 working days. A summary and schedule of actions taken to correct hazards will be included in the investigation results. The identity of persons requesting anonymity will be protected.

      (10) Inform supervisor and post notices of “Notice of Unsafe or Unhealthful Working Conditions”, DA Form 4753 (Appendix B), for all hazards having a risk assessment code (RAC) of one (1) or two (2).

   b. Directors/Team Leaders shall:

      (1) Comply with the Installation Safety Action Plan.

      (2) Ensure supervisors and employees have the necessary training and equipment to perform their job in a safe manner. Safety equipment consists of but is not
limited to the following items: Personnel Protective Equipment (PPE), fire extinguishers, eyewash stations, First Aid kits, electrical safety rescue equipment. Flammable and corrosive storage cabinets, etc.

(3) Ensure that all supervisors have a complete and current Job Hazard Analysis documented and on file (Appendix E) for all work functions and hazards and assure that all hazards are identified and mitigated. Ensure that the Job Hazard Analyses are reviewed annually and revised accordingly.

(4) Ensure supervisors and employees participating in OSHA’s Voluntary Protection Program (VPP) are in compliance with VPP principles (Appendix F).

c. Supervisors shall:

(1) Comply with the Installation Safety Action Plan.

(2) Participate in inspections of their work areas quarterly.

(3) Initiate appropriate actions to correct noted safety deficiencies and discrepancies.

(4) Provide the ISO with a report on the status of abatement actions taken to resolve identified safety deficiencies and discrepancies in the time frame specified.

(5) Remove personnel from identified IDLH situations.

(6) Institute interim safety measures while awaiting correction of deficiencies and discrepancies.

(7) Inform employees and post notices of “Unsafe or Unhealthy Working Conditions”, DA Form 4753 (Appendix B).

(8) Ensure a current Workplace Hazard Assessment/Job Safety Hazards Analysis (Appendix E and/or K) has been completed, reviewed, and concurred on by the ISO, and is maintained on file. (Mandated for any operation requiring the use of PPE.)

(9) Ensure all assigned personnel are instructed in the safe performance of their assigned duties. All newly assigned and reassigned personnel shall be instructed about any hazards that are inherent to the job or task assignment.

(10) Ensure visitors in restricted, explosive, or other hazardous locations are accompanied by a competent White Sands Missile Range employee.

(11) Ensure work spaces and office equipment are arranged for a safe, healthy, and ergonomically correct working area.

(12) Investigate all employee reports of unsafe or unhealthy working conditions. If the hazard severity is likely to cause death, severe injury, severe occupational illness or major property damage, the condition will be immediately corrected and/or operation stopped. If the condition cannot be immediately eliminated, the supervisor will notify the Director, ISO.

(13) Ensure no retributive actions are taken against any employee who reports potential safety hazards or concerns. Note: As identified in 29 CFR 1903.11.d, "No person shall discharge or in any manner discriminate against any employee because such
employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act or has testified or is about to testify in any such proceeding or because of the exercise by such employee on behalf of himself or others of any right afforded by this Act."

d. Employees shall:

(1) Follow and comply with safety rules, regulations, instructions, and SOPs applicable to their position.

(2) Report all injuries to their supervisor, no matter how minor.

(3) Correct any unsafe or unhealthful working condition within their purview.

(4) Report any unsafe or unhealthful working condition, environment or imminent danger situation to their immediate supervisor without delay.

1. If unsatisfied with the action taken by the immediate supervisor to correct an unsafe or unhealthful working condition, the employee may call or submit a written report directly to the ISO using DA Form 4755.

2. The identity of persons requesting anonymity will be protected.

(5) Not interfere with the inspection surveys of the work site.

(6) Advise and discuss with the safety inspector any potential unsafe or unhealthful working conditions without fear of retribution.

e. Safety Coordinators: Primary and Alternate Safety Coordinators shall conduct a monthly safety meeting and keep minutes on file.

4-2. GENERAL SAFETY PRACTICES: Directors shall insure the following safe work practices are implemented within their organizations:

a. Fire Protection:

(1) All Personnel will follow emergency fire and evacuation procedures posted throughout the building or facility.

(2) Smoking is prohibited in all facilities except in areas where designated. Outside areas for smokers shall be located at least 50 feet from entrances to the building.

(3) No fire or flame producing devices will be permitted within 50 feet of flammable or explosive materials.

(4) Matches or lighters are not permitted in explosive areas.

(5) Fire hydrants, fire extinguishers, hose racks, or fire alarm boxes shall not be obstructed.

(6) Fire extinguishers, emergency lights, and emergency exit signs

1. All fire extinguishers shall be visually inspected monthly by the Safety Coordinator assigned to the building. A log or a tag attached to the fire extinguisher will be maintained which identifies the location and type of each extinguisher and the monthly inspection annotated on the log or tag. Ensure all portable fire extinguishers are subjected to an annual maintenance check. Stored pressure extinguishers do not require an internal
examination. Record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less. Assure that stored pressure dry chemical extinguishers that require a 12-year hydrostatic test are emptied and subjected to applicable maintenance procedures every 6 years. Dry chemical extinguishers having non-refillable disposable containers are exempt from this requirement. When recharging or hydrostatic testing is performed, the 6-year requirement begins from that date.

b. All emergency lights and emergency exit signs, shall be visually inspected monthly by the Safety Coordinator assigned to the building.

c. Hot work permit: Organizations shall contact WSMR Fire Department for issuance of a hot work permit for hot work operations conducted on or near flammable or explosives chemicals. Hot work is any process that can be a source of ignition when flammable or explosive material is present. Common hot work processes are welding, soldering, cutting and brazing.

d. Housekeeping:

   (1) Work areas shall be kept free of equipment, materials, and tools which are not essential to the work being performed.

   (2) Rags, clothing, and waste materials contaminated with oil or flammable materials shall be placed in non-combustible containers with lids. These containers shall be provided by the organization producing the waste, and placed in work areas with materials separated by type and the container labeled, e.g., “Combustible Only,” or “Contaminated Waste.”

   (3) Oily clothing or waste materials is not to be stored in lockers.

   (4) All trash receptacles or wastebaskets will be made of non-combustible material.

   (5) Materials shall not be stored on top of cabinets or lockers. A clearance of 18 inches shall be maintained from ceiling mounted fire sprinklers to top of storage containers, file cabinets, or bookcases.

   (6) All mops and brooms shall be stored in racks or hung, preferably outside the building, with the mop and broom end free from contact with any combustible material and stored in a manner to allow air circulation on all sides.

   (7) Trash dumpsters shall not be located or placed within 25 feet of any structure, parked vehicles or flammable storage area. NOTE: This will prevent fire damage to property in case of dumpster fire.

e. Floors, Walking and Working Surfaces:

   (1) All floors and walkways shall be maintained in a clean and dry condition. All walkways, passageways, aisles, and exits will be free of clutter, trash, and obstructions. Materials shall not be permitted to protrude or be stored in walkways, passageways, or aisles.

   (2) Floors shall be adequate for the loads placed upon them. Special consideration shall be given to heavy, concentrated loads such as safes, refrigerators,
and other heavy items. All mezzanine floors shall be load tested and conspicuously labeled as to floor load limits.

(3) Building entrances surfaced with smooth flooring which could become slippery during inclement weather shall be provided with suitable storm mats.

(4) All spills (wet or dry) shall be cleaned up immediately or barricaded until the condition is corrected.

(5) Differences of elevations in floors, aisles, corridors, and other walkways shall be clearly indicated and marked. Railings shall be provided if necessary. Stairs with four (4) or more risers require hand railing.

(6) Stairways shall be kept clear of all materials and properly illuminated. They shall be kept clean, dry, and in good repair. Broken or cracked step nosing, loose or peeling non-slip pads, worn rugs, or broken tiles shall be replaced. Snow and ice should be removed and appropriate deicer applied.

(7) Power and telephone cords, wires, and furniture shall be arranged to prevent trip or fall hazards and safe evacuation in the event of an emergency.

(8) Desk and file cabinet drawers shall be kept closed when not in use.

(9) Filing cabinet loading shall be redistributed if they become top heavy.

(10) To retrieve or place items stored above their normal reach, personnel will be provided approved step stools or ladders equipped with non-slip treads and feet.

(11) Rugs and carpets shall be taped or permanently installed. Special attention should be given to the edges to prevent rolling and bunching.

f. Collision Prevention:

(1) Two-way traffic around blind corners in buildings shall be controlled by use of lines painted on the floor or parabolic mirrors.

(2) Solid swing doors shall have clear glass observation panels and/or proper signs posted such as “Open Door Slowly” to protect unseen traffic on swinging door side of exit/entrance.

g. Fan Guards: Unguarded or improperly guarded electric fans shall be located at least 7 feet above the floor and securely anchored. All other fans must have a guard with an opening no larger than 1/2 inch.

h. Two Person Rule (Two Man Rule):

(1) Working Alone

1. Employees are required to periodically report to the supervisor or his designated representative (mission controller, colleague at base facility, etc.) using any means available (i.e., phone, radio, email, text message, etc.)

2. In the event of an emergency, if the employee has not made contact as required or the employee did not return within the estimated time, the supervisor or designee will initiate contact, and if unsuccessful, will contact the Director of Emergency Services via Central Dispatch (678-1234) to check on the person’s safety and health.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(2) Traveling Alone (Non-Isolated Areas)

1. Non-Isolated Travel: This condition applies to well-traveled areas where traffic patterns indicate high probability of visual observation or voice communication in the case of an emergency. Baseline areas include the WSMR cantonment area, Highway 70, Small Missile Range (SMR), Nike Avenue, Range Roads 5, 6, 7 and 10 during normal duty hours, and launch complexes. Also any other areas at the discretion of the supervisor.

2. Two-person rule is strongly encouraged.

3. Effective radio or cellular communication is encouraged everywhere.

4. A supervisor may require two person rule at his discretion.

5. Anytime an employee does not feel comfortable doing a task alone, (i.e. driving up range in icy conditions) he/she can request a second person to assist in the task.

(3) Isolated Travel: Any area not designated as “non-isolated travel” shall be considered isolated travel.

1. Two-person rule is strongly recommended.

2. Effective radio or cellular communication equipment is mandatory.

3. Supervisors may require two person rule at their discretion.

4. Anytime an employee does not feel comfortable doing a task alone (i.e., driving up range in icy conditions) he/she can request a second person to assist in the task.

5. Supervisors are responsible for ensuring employees understand and adhere to the two person rule, as well as associated policy and reporting procedures. The supervisor has the authority to require two people in the vehicle; the determination will be based on a variety of factors to include mission, location, and terrain, and travel conditions, length of day, extreme weather or combinations thereof.

6. Employees are responsible for performing a Risk Management Process and ensuring that they have the right vehicle for the trip/mission, and have completed a vehicle inspection to include, tire pressure, fire extinguisher, fuel, fluids, etc. The Risk Hazard Analysis is best performed as a team or group whenever possible. Employees should also have potable water and cell phone or two way radio as required above; have determined the safest route for the trip and understanding of potential hazards; have planned adequate time for the trip; and, are physically able and adequately rested/prepared to make the trip. If you feel you are not adequately rested/prepared to perform work related travel, report this to the supervisor or his designated manager.

7. For situations that require an employee to work alone, the Supervisors will ensure the employee has performed a Risk Management Process of the required task/s and provide it to the supervisor for review and approval. Supervisors will use the analysis provided to ensure the employees are aware of the risks associated with working alone and cautioned against attempting anything that under normal working conditions would require two individuals to prevent serious injuries. Examples include lifting heavy objects, moving bulky equipment/instrumentation, working on high ladders in isolated areas or work sites, etc.
(4) Mandatory Two Person Rule:

1. All Hazardous Work Tasks require use of the Two Person Rule - Examples:
   - Oxygen Deficiency Hazard Work (ODH) Caves, enclosures, confined spaces
   - Lockout Tagout Work (LOTO)
   - Explosive Operations
   - Conducting fuel delivery and dispensing operations
   - Stored Energy such as: Compressed Gas, Electrical and Cryogenics (supercooled liquids).

2. The two person rule applies whenever there is reason to believe that a situation may develop where the person could not summon assistance within a reasonable time or where assistance from another person would not be available in the event of an accident or mishap.

3. Hazardous work in isolated areas including uninhabited buildings after regular working hours requires the presence of at least two people.

4. Supervisors responsible for assigning an employee to duties which require working alone in an isolated area shall require the employee to report periodically by telephone or two-way radio to the shop or office accountable for the employee. The supervisor and employee will establish a clear understanding of the established communication necessary to monitor the employee’s safety.

   i. Manholes, Storage Tanks and other confined spaces: The Directorate of Emergency Services (Fire Department) shall be requested to perform or arrange for a confined space permit before personnel enter them. The procedures for confined space entry are addressed in chapter 13 of this regulation.

   j. Walk-in Spaces: A walk-in space is any space, which may be entered by one or more persons and has a door lock, closing mechanism, or other device that may prevent voluntary egress of personnel. Vaults and other secured areas are considered walk-in spaces.

      (1) For operations other than maintenance and repair work, only trained personnel familiar with the walk-in space and safety precautions, including emergency exit procedures, shall be assigned work which requires entry.

      (2) Walk-in space safety devices shall be inspected for safe and effective operation the first time it is entered each day. The employee shall record the inspection on a log located at the entrance.

      (3) Each door shall be equipped with an operable inside door handle or bump bar for releasing the door fasteners or to force the door open from within the walk-in space.

      (4) Locking doors shall be installed in a manner to allow all locks to be completely opened from inside the walk-in space.
(5) Locks operated independently of inside-opening mechanisms shall not be permitted.

(6) Appropriate instructions (evacuation plan) regarding emergency escape procedures/routes shall be posted in a conspicuous place for viewing by employees and visitors in all buildings.

k. Personal Protective Equipment: For use of Test Specific PPE see Chapter 27.

(1) Personal protective equipment (PPE) can be used to protect the eyes, face, head, lungs, and extremities. Examples are: protective clothing, respiratory devices, protective shields, and barriers. The use of personal protective equipment does not relieve the requirement for management to engineer controls or manage the hazardous exposure administratively. Personal protective equipment will be provided to WSMR employees when engineering controls are not feasible. PPE is necessary when;

1. Industrial Hygiene (IH) has directed PPE requirements based on worksite surveys.
2. PPE is specifically required by regulation or public law.
3. Safety has determined PPE is required.

(2) The supervisor shall ensure employees utilizing PPE have been trained in the following:

1. What type of PPE is necessary;
2. How to properly don, doff, adjust, and wear PPE;
3. The limitations of the PPE;
4. And the proper care, maintenance, useful life and disposal of the PPE.

(3) The supervisor will retrain an employee when he has reason to believe that an already trained employee does not have the understanding or skill required to use the PPE.

(4) The supervisor shall verify that each affected employee has received and understood the training.

(5) A certification record of training must be maintained by the supervisor for the duration of employment. This record must identify each employee trained, date(s) of training, subject, name of the instructor, and the statement “Personal Protective Equipment Certification Training”.

(6) The supervisor shall ensure and enforce the wearing, use, and maintenance of personal protective equipment.

(7) A Job Hazard Analysis (JHA) must be completed for every employee listing all required PPE.

(8) Supervisors will provide PPE that Safety or IH has identified as necessary.

l. Work Clothing:
(1) Static generating synthetic fabrics, such as nylon, shall not be worn by operators or visitors in areas containing explosives, pyrotechnics or explosive air vapor mixtures. Cell phones and radio transmitters will not be worn in these areas. Cotton garments are required in these operations.

(2) Rings, wristwatches, or other jewelry, shall not be worn for any job involving moving or rotating machinery, exposed electric currents, materials handling, and explosives type operations.

(3) Employees shall wear clothing suitable for the weather, work environment, task, and location. The minimum in an industrial or test setting is short sleeve shirt, long trousers or pants, and leather or other protective work shoes or boots. Neck ties and other loose items will not be worn around moving machinery. Canvas, tennis, deck shoes, or sandals are not acceptable. The wearing of open toe shoes shall not be permitted in any WSMR workplace.

(4) Personnel involved in field or outdoor operations shall wear long trousers or pants and enclosed leather or other protective work shoes or boots. It is recommended that clothing made of natural fibers be worn. Long sleeves, a hat, sunglasses and liberal use of sunscreen are encouraged.

(5) Personnel with long hair involved in operations with moving machinery shall restrain hair with a hair net, cap, or other device.

(6) Foot protection providing protection against impact, compression forces, conductive hazards, electrical hazard and sole puncture shall be worn. This foot protection must meet the requirements of ANSI Z41. The type of foot protection will be dependent on the hazards present.

(7) Personnel involved in activities which expose them to vehicular traffic shall wear a highly visible vest during daylight and reflection belt or vest during reduced visibility or night.

(8) Eye and face protection are addressed in chapter 18.

m. Compressed and High Pressure Air:

(1) Compressed air shall be limited to less than 30 psi for dusting purposes. Special safety nozzles or regulators, which reduce the pressure or deflect the air blast, shall be used. Compressed air nozzles must have openings at the tip of the nozzle to relieve pressure if the nozzle is placed against the skin.

(2) Machinery, floor, and clothes will be cleaned with a brush or vacuum cleaner equipped with a High Efficiency Particulate Air (HEPA) filter. Only machinery that cannot be cleaned in any other manner, as designated by the supervisor, may be cleaned by compressed air.

(3) Supervisors shall ensure that all personnel using high pressure or compressed air are authorized to do so, are fully aware of the dangers involved, and thoroughly familiar with the safety precautions.

(4) To reduce hazards involving high-pressure air, the following shall be adhered to:

*This document supersedes WSMR 385-18 RAR 02 Feb 12
1. Testing, inspection, and repairs to high-pressure air facilities shall only be accomplished by competent personnel.

2. All pressure gauges shall be calibrated and relief valves tested annually.

3. All low pressure (below 500 psi) and high-pressure (501-6000 psi) compressors will be inspected at 12-month intervals or anytime a malfunction or erratic operation dictates. Service basis on high-pressure compressors shall be considered as having a maximum total life of 5 years.

4. Prior to repairs and maintenance on high-pressure air systems, the system shall be locked or tagged out in accordance with chapter 11.

n. Material Storage:
   (1) Raw materials shall be brought into work areas in no greater quantity than is necessary.
   (2) Flammable liquids and similar materials shall be stored in NFPA-approved containers or flammable cabinets.
   (3) All eyewashes shall be inspected once a week and initialed by inspector.
   (4) Additional information and guidance can be obtained from TB 43-0151, 17 Mar 89, Inspection and Test of Air and Other Gas Compressors.

o. Welding, and Brazing:
   (1) Supervisors shall be responsible for ensuring that all gas welding and burning equipment has been inspected, tested, and tagged IAW TB 43-0151, 17 Mar 89, Inspection and Test of Air and Other Gas Compressors.
   (2) All gauges, regulators, and hoses shall be inspected prior to being placed in service and annually to ensure their accuracy IAW with TB 43-0151, 17 Mar 89, Inspection and Test of Air and Other Gas Compressors.

p. Cranes, Rigging, and Weight Handling (Lifting) Equipment:
   (1) Periodic inspections and testing of lifting equipment are the only methods available for the detection of unsafe slings, hooks, rings, clevises, pendants, crane cables, hoisting ropes, boom ropes, and similar lifting equipment. All lifting equipment shall be inspected and tested in accordance with TB 43-0142, Safety Inspection and Testing of Lifting Devices.
   (2) Crane, rigging and weight handling operations will be performed in accordance with TB 43-0142, Safety Inspection and Testing of Lifting Devices and recognized trade practices, to include load test requirements as per TB 43-0142.
   (3) Crane Lifts.
      1. All crane lifts require pre-lift planning to determine factors such as load weight, crane configuration, rated capacity, and site conditions.
      2. Critical Lift- A critical lift means a lift that (1) exceeds 75 percent of the rated capacity of the crane or derrick, or (2) requires the use of more than one crane or derrick. A written critical lift plan is required for all critical lifts.
q. Competent Person The term "Competent Person" is used in many OSHA standards and documents. An OSHA "competent person" is defined as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them" [29 CFR 1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them. Some standards add additional specific requirements which must be met by the competent person. There are currently no specific standards regarding competent persons.

r. Electrical Safety for All Army Activities- General requirements regarding electrical safety are addressed in DA PAM 385-26, The Army Electrical Safety Program.

s. Mechanical and Ground Support Equipment Operation

(1) All military personnel and DA civilians must have an OF 346 and demonstrate their proficiency in order to operate the following mechanical or ground support equipment, (i.e. Electrical power generating equipment, 0.5 KW and above (electric motor driven, diesel engine driven, gasoline engine driven, and gas turbine driven sets).

(2) Application of these procedures will begin with the selection of persons to be licensed. The tests prescribed herein will be given throughout the Army. Successful completion of the prescribed tests will not automatically qualify a person for retention as an Army vehicle or equipment operator if, for medical, disciplinary, or other reasons (including prior accident record, attitude toward driving, use of intoxicants or pathogenic drugs), he or she appears to be incapable of continuing as a safe and competent vehicle or equipment operator. The issuing authority may revoke an operator's OF 346 based on the recommendations of safety or medical personnel.

(3) Operators must be licensed (authorization documented on an OF 346).

(4) Contractors must have a program that meets or exceeds Army requirements.

t. Fall Protection Program- For specific fall protection program requirements see Appendix M.

4-3. SAFETY AND OCCUPATIONAL HEALTH INSPECTIONS: Periodic inspections conducted by the Installation Safety Office, are to maintain a safe and healthful work environment, identify potential safety deficiencies and discrepancies, and in response to an employee complaint. Inspection emphasis is placed on identification of physical hazards, training and documentation, general housekeeping, electrical compliance, fire prevention, and overall safe work practices. The inspection report contains a list of deficiencies noted during the inspection. Deficiencies, which require action by the organization inspected, have been identified with an appropriate Risk Assessment Code (RAC). Supervisors are required to correct deficiencies, and implement interim controls within their workplaces until the deficiencies are corrected. (Refer to Appendix D, for an explanation of the Risk Assessment Code (RAC) matrix.)

4-4. SAFETY AND OCCUPATIONAL HEALTH ASSESSMENTS
a. An evaluation (assessment) of building and operations will be performed by the Industrial Hygiene (IH) Section, Occupational Health Clinic, McAfee Army Health Clinic. This evaluation is conducted for the purpose of determining the presence of health hazards resulting from operations. Health hazards data gathered on operations and information on employees is included in the secure Defense Occupational and Environmental Health Readiness System, (DOEHRs) database. In addition the data is recorded on appropriate forms and a copy retained in the IH Section official file. Title 5 US Code, Section 301, Executive Order 9297 authorizes the use of Social Security Number as identification. This information is needed to identify and monitor data relating to individual DA civilian and military employees exposed to hazardous workplaces or operations and to provide histories of exposures for any given worker. In addition, the DOEHRs system assists IH by providing the following:

(1) A database for the effective management of IH services at the installation level

(2) A database for implementation of a medical surveillance program at the installation level.

(3) Management information for responding to Office of the Surgeon General (OTSG) and major Army Commands (MACOMS) on matters relating to industrial operations, exposures, and controls.

b. Upon receipt of a completed IH survey, contact Occupational Health at 674-3504 to schedule an appointment with Occupational Health of Medical Surveillance if medical surveillance is recommended. If medical surveillance is necessary for your workgroup, notify Occupational Health of any personnel changes, to include new hires, transfers and/or retirees as these occur. It is the responsibility of each supervisor to share the comments and recommendations of IH surveys with each employee.

c. As per OSHA 1960.9 Supervisory Responsibilities- Employees who exercise supervisory functions shall, to the extent of their authority, furnish employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm. As per OSHA 196019b, Employee Responsibilities and Rights- Employees shall use safety equipment, personal protective equipment, and other devices and procedures provided or directed by the agency and necessary for their protection.

d. All IH reports are based on the information available at the time of the survey. Should additional information become available, IH may revise the opinions, conclusions and recommendations, if necessary, as warranted by the discovery of additional information. The hazards listed and any recommendations noted are intended for use in the practice of industrial hygiene as guidelines to assist in the control of potential workplace health hazards and should not be solely relied upon as the only precautions to use during hazardous operations.

e. Due to the wide variety of toxic hazardous materials (adhesives, solvents, aerosols, etc.) required by personnel to properly accomplish a task, IH recommends thoroughly reviewing Safety Data Sheets (SDS) for Personal Protective Equipment (PPE) requirements prior to performing a task. IH recognizes that some individuals may be
more sensitive to a hazard than others: therefore, if a concern is expressed by an employee or upon request, IH will perform the following:

(1) Perform a specific evaluation on an individual’s workplace.

(2) Prior to purchasing new operation equipment and/or office furniture contact IH for an ergonomic evaluation. If there are any further questions concerning PPE requirements or for further technical assistance contact the Industrial Hygiene Section, telephone 674-3518.

4-5. HAZARD ANALYSIS

a. Every proposed program for testing must be examined by the test officer, with support from the safety office, and designated responsible officials for all foreseeable hazards involved in the test. All significant failure modes in equipment and operations must be analyzed to determine possible hazards. This must be done with knowledge of the construction and operation of all items (standard and nonstandard) to be used. When a specific hazard can be foreseen, it must be eliminated or reduced to an acceptable risk level before pursuing the objectives of the test. If this is not possible, personnel and equipment must be afforded adequate protection.

b. A hazard analysis is a clear, systemic, concise, well defined, orderly, consistent, closed-loop, quantitative or qualitative and objective methodology used to identify possible hazards within a mission, system, equipment or process that can cause losses to the mission, equipment, process, personnel or damage to the environment. Examples of hazard analyses are What-If, Preliminary Hazard Analysis, Sneak Circuit Analysis, Hazard and Operability Study, Fault Tree Analysis, Failure Mode and Effects Analysis, and Fault Hazard Analysis. Ensure a hazard analysis is prepared for all hazardous and explosives operations. A hazardous operation is defined as any activity that has the potential to injure, maim, or fatally wound an individual, cause damage or loss of equipment, or requires the use of personal protective equipment.
CHAPTER 5- SAFETY AWARD PROGRAM

5-1. GENERAL:

   a. The Secretary of the Army established the Army Accident Prevention Awards Program to personally recognize organizations and individuals that have demonstrated exceptional operational excellence by sustained mission success with simultaneous exemplary safety performance. (See AR 385-10, chapter 8, for more information on this program). Safety awards are recognized as an essential part of an effective safety program. This chapter establishes policy, requirements, responsibilities and procedures for a safety awards program at WSMR. These provisions apply to all Commanders, Directors, Staff Offices and tenant activities on WSMR.

   b. The objective of this awards program is to promote excellence in mission readiness by accident and hazard reduction. An active safety awards program will recognize effective safety programs, integration of Risk Management principles, and foster a sound safety culture. Organizations and individuals should be recognized for extraordinary commitment to a command-wide safety focus that demonstrates effective Risk Management integration in operational readiness and mission success.

5-2. AWARDS PROGRAM:

   a. The Installation Safety Director (ISD) administers the joint safety awards program for WSMR. Tenant Commanders and Directors of WSMR activities are encouraged to establish a safety awards program within their areas of responsibility to recognize safety achievements not provided for in this regulation. Safety award programs for WSMR activities will be reviewed and approved by the ISD prior to implementation.

5-3. RESPONSIBILITIES:

   a. Initiators: Unit commanders/activity directors shall send nominations to the ISO.

   b. Nominations: ISO shall vote on nominations and recommend award through their chain of command for approval.

   c. Approval authority.

       (1) Commander, US Army Test Center

       (2) Commander, US Army Garrison.

       (3) Assigned, attached, and other units and activities - Unit commander/activity director.

5-4. PRESENTATION: The approving authority will present the awards at the appropriate ceremony.

5-5. AWARDS: Department of the Army (DA) Certificate of Merit for Safety (DA Form 1118), U. S. Army Safety Award (1119-1), Individual Cash Award (DA Form 1256), Time Off Award (DA Form 1256).

   a. The use of promotional items can substantially enhance accident prevention programs. Installations must maintain a safety awareness program pursuant to AR 385-
10, chapter 8-8. Small promotional items conveying safety messages may be part of the safety awareness program and their use is encouraged to influence safe performance of duties. Appropriated funds may be used to purchase such promotional items as a necessary expense to carry out the safety awareness program mission unless otherwise prohibited by law.

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

c. Promotional items for purchase by Commanders, Directors, Staff Offices and tenant activities on WSMR will be coordinated with the ISD prior to purchase.

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

e. Use small, inexpensive items to recognize day-to-day safe performance. These individual items will not exceed $25.00 in cost. Examples are pencils, pens, gym bags, key chains, cups, etc. The ISD must approve distribution schemes.

f. Use items to recognize significant contributions that have a positive effect on the safety of an organization. These individual items will be less than $50.00 in cost. Examples are pen and pencil sets, jackets, calculators, etc.

g. Promotional items will not be recorded on property books. For this reason, Commanders, Directors, Staff Offices and tenant activities on WSMR must secure these items and establish internal controls to maintain accountability.

h. Compliance with the above criteria will be inspected during the annual safety and health program evaluation.

5-6. SAFETY COORDINATOR RECOGNITION: Commander’s, Director’s and heads of activities are highly encouraged to recognize individuals serving in the critical safety role as a safety coordinator. Recognition can be in the form of a Department of the Army (DA) Certificate of Merit for Safety (DA Form 1118), U. S. Army Safety Award (1119-1), Individual Cash Award (DA Form 1256), Time Off Award (DA Form 1256), or a write-up in the annual performance appraisal are a few examples.

5-7. SENIOR COMMANDER’S SAFETY AWARD:

a. Purpose. WSMR Senior Commander’s Safety Awards recognize organizations and other WSMR activities for meeting accident prevention goals and making significant contributions to the Army Safety Program.

b. General.

(1) This program provides a quantitative system to evaluate WSMR commands, directorates and tenant activities with similar missions and personnel strengths to identify which programs are deserving of recognition.

(2) The Senior Commander’s Safety Award will be presented at the semi-annual SOHAC or other appropriate command wide function.

c. Categories. For purposes of the WSMR Senior Commander’s Safety Awards Program, WSMR commands and tenant activities are divided into three categories. The
WSMRR 385-18

WSMR Commander’s Safety Award will be presented to first place (highest score) in each of the three personnel assigned strength categories.

(1) Large: 100 and above personnel assigned
(2) Medium: 30 to 99 personnel assigned
(3) Small: 29 and below personnel assigned

d. Awards Period. The WSMR Senior Commander’s Safety Awards are based on the previous fiscal year (1 October through 30 September) data.

e. Award nomination and selection criteria.

(1) Nominations. Commanders/Directors and tenant activities will forward nominations to Commander, usarmy.wsmr.atec.mbx.safety@mail.mil NLT 15 December of each year. The WSMR Installation Safety Director will review nominations and recommend award winners for each category to the WSMR Senior Commander for approval.

(2) Selection Criteria. The Senior Commander’s Safety Awards criteria are based upon the following:

(a) Successful safety program management as indicated in the results of the annual safety program evaluation conducted by the Installation Safety Office.

(b) Accident prevention efforts.

(c) Accident rate reduction experience as measured against the WSMR Accident Prevention Goals. Goals are based upon WSMR accidents only and rates are computed IAW AR 385-10, paragraph 3-32b and Headquarters, Department of the Army (HQDA) guidance, except for the Army motor vehicle (AMV) rate, which will be computed based upon miles driven versus population. WSMR category, measure, and goals as follows:

1. Military injuries (Class A-C). Measure. Disabling injury rate; the number of military injuries per 1000 population. Goal. A reduction of 5 percent from the activity or command’s preceding 5-year average military disabling injury rate.

2. AMV accidents (Class A-D). Measure. AMV rate; the number of AMV accidents (Class A-D) per 1,000,000 miles driven. Goal. A reduction of 5 percent from the activity or command’s preceding 5-year average AMV rate.

3. Aviation accidents (Class A-C). Measure. Aviation accident rate; the number of Class A-C aircraft accidents per 100,000 flight hours. Goal. A reduction of 5 percent from the activities preceding 5-year average aviation accident rate.

4. Special initiatives in motor vehicle safety.

5. Special initiatives in off duty safety.

6. Safety program enhancements.

5-8. GROUND SAFETY UNIT AWARD:
a. Eligibility. Military members/US (DAC) civilian/Master Labor Contract (MLC)/Indirect Hire Agreement (IHA) personnel assigned, attached and other units and activities personnel are eligible for safety awards.

b. Requirement. Units which complete 365 consecutive days without experiencing a Class A, B, or C accident, as defined in DA PAM 385-40, are eligible and must demonstrate exemplary safety performance for a period of no less than 1 year. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accidents, attending safety meetings, and presenting safety orientations to newly assigned personnel. Personnel who complete the following driving requirements without an at-fault accident or traffic violations are eligible.

5-9. ARMY MOTOR VEHICLE (AMV) SAFE DRIVER AWARD:

a. Eligibility. Military members/US (DAC) civilian/Master Labor Contract (MLC)/Indirect Hire Agreement (IHA) personnel who regularly drive AMVs in the performance of their daily duties are eligible for the AMV Safe Driver Award.

b. Requirement. A person must demonstrate exemplary safety performance for miles driven as outlined below. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accident, attending safety meetings, and presenting safety orientations to newly assigned personnel. The nominee must have completed one of the following without an “at-fault” on-duty vehicle accident or a moving violation:

   (1) 10,000 miles of administrative vehicle operation, or
   (2) 3,000 miles of tactical vehicle operation, or
   (3) 1,500 miles of tracked vehicle operation, or
   (4) 1,500 hours of material handling equipment operation

5-10. SAFE EMPLOYEE AWARD:


b. Requirement. Personnel who complete 365 consecutive days without any mishaps or incidents causing personnel injury or damage to government property are eligible. A person must demonstrate exemplary safety performance for a period of no less than 1 year. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accidents, attending safety meetings, and, presenting safety orientations to newly assigned personnel.

5-11. SAFE MATERIAL HANDLING EQUIPMENT AWARD:
a. Eligibility. Military members/US (DAC) civilian/Master Labor Contract (MLC)/Indirect Hire Agreement (IHA) personnel are eligible who regularly operate material handling equipment (forklifts, mobile cranes, lifts, etc.) in the performance of their daily duties.

b. Requirement. Personnel who complete 365 consecutive days without any mishaps or incidents causing personnel injury or damage to government property in operation of material handling equipment are eligible. A person must demonstrate exemplary safety performance for a period of no less than 1 year. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accidents, attending safety meetings, and, presenting safety orientations to newly assigned personnel.

5-12. SAFE SUPERVISOR AWARD:


b. Requirement. Supervisors who manage and supervise personnel within their section for 365 consecutive days without any mishaps or incidents causing personnel injury or damage to government property are eligible. A person must demonstrate exemplary safety performance for a period of no less than 1 year. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accidents, attending safety meetings, and, presenting safety orientations to newly assigned personnel.

5-13. SAFETY AVIATION AWARD:

a. Eligibility. US Army aviators and crew members.

b. Requirement. The completion of 250, 500, and 1000 consecutive flying hours without any aviation mishaps resulting in injury to personnel or damage to property and equipment are eligible. A person must demonstrate exemplary safety performance for a period of no less than 1 year. Exemplary performance examples include proactive accident prevention activities, exceptional dedication and experience in conducting physical safety inspections, superior training or coaching personnel in safety and occupational health topics, investigating accidents: attending safety meetings; and presenting safety orientations to newly assigned personnel.

5-14. US ARMY DRIVER/MECHANIC BADGE: Military units are encouraged to utilize this award IAW AR 600-8-22 for eligible military personnel. Prior to submitting the request for orders, nominations should be submitted to ISD for verification that the nominee has not been involved in a disqualifying accident.
CHAPTER 6- HAZARD COMMUNICATION PROGRAM (HAZCOM)

For Hazard Communication Program (HAZCOM) refer to Appendix G of this document.
CHAPTER 7- ACCIDENT REPORTING AND RECORDS

7-1. REQUIRED FORMS:
   a. Record of Injury: Required for all injuries (Appendix I).
   b. DA Form 285 - US Army Accident Report: Required for all class A and B accidents. The Supervisor is required to complete this report through REPORT IT, the Army's online accident reporting system. ISO will provide assistance as needed.
   c. DA Form 285-AB-R - Abbreviated Ground Accident Form: Required for all class C and D accidents. The Supervisor is required to complete the report through REPORT IT, the Army's online accident reporting system. ISO will provide assistance as needed.
   d. DA Form 2397-AB-R - Abbreviated Aviation Accident Report (AAAR): Required for all aircraft ground accidents (regardless of class) and all Class C, D, E and F (turbine engine FOD) aviation accidents/incidents. The Supervisor is required to complete the report through REPORT IT, the Army's online accident reporting system. ISO will provide assistance as needed.
   e. WSMR Accident Investigation Form, 01 May 2015, Appendix J.

7-2. RESPONSIBILITIES:
   a. Employees shall:
      (1) Immediately notify the supervisor of a work injury no matter how minor.
      (2) Seek medical treatment if necessary. Employees are encouraged to be treated at McAfee Health Clinic. An employee may be treated by their private physician; however, the employee must report (or have supervisor report) as soon as practical, all injuries to McAfee Health Clinic to facilitate documentation of a work related injury.
      (3) When working at remote sites, obtain medical treatment from the nearest source, then notify the supervisor. Employees who are assigned to Stallion Range Center and Holloman AFB will obtain medical treatment and report per local policy.
      (4) Return the Occupational Health Memo for Record (Appendix H) and a copy of the Record of Injury to the supervisor.
      (5) If an injury occurs while on travel or TDY, report to the nearest Government Medical Facility (if available). Otherwise, report to the nearest hospital or physician and request treatment. In such situations, the employee should take action to report the injury to the supervisor as soon as possible.
   b. Supervisors shall:
      (1) Complete Record of Injury upon being notified of a work injury. Note: In emergency situations where delay in treatment could be detrimental to the employee, the forms may be completed after initial treatment.
(2) In a nonemergency situation, provide the form to the employee to take to McAfee Health Clinic to receive treatment. The forms may be completed at the clinic.

(3) Prepare additional accident reporting forms for any accident meeting the criteria of a class A, B, C, D, E, or F accident as outlined in 7-6.

c. Governmental Medical Officers or attendants shall:

(1) Complete a Memo For Record [MFR] indicating results of evaluation, and need for follow up and/or duty limitations. An example of such an MFR is in Appendix H.

(2) Complete section II of the Record of Injury.

(3) Provide a copy of the MFR and a copy of the Record of Injury to the employee. Note. If the employee is not returning to work, a copy of the Record of Injury and MFR will be maintained by the clinic and picked up by the supervisor.

(4) Maintain a copy of Record of Injury for the Installation Safety Office to pick-up.

(5) Attach a copy of the Record of Injury and MFR to the employee’s electronic medical record [AHLTA].

d. Contractors shall:

(1) Accidents or Injuries to personnel- Report all accidents or injuries to personnel to the Contracting Officer’s Representative (COR) or Project Representative. If COR or Project Representative is not available, report accidents or injuries to ISO Director or designated representative. Forward a written report through the COR or Project Representative using contractor’s format or similar to forms identified in Section 7-1 of this document to the Installation Safety Office within seven (7) calendar days of occurrence.

(2) Damage to Army property. This includes Government furnished material, or Government furnished property, or GFE provided to a contractor. Contractor must complete DA Form 285 or 285-AB-R, when damage to Army property is equal to or greater than $5,000.00. If Contractor has an issued Common Access Card (CAC), Contractor is required to complete the report through REPORT IT, the Army’s online accident reporting system. If contractor has not been issued a Common Access Card, the forms identified in Section 7-1 of this document must be utilized and provided to the Installation Safety Office Director or designated representative within seven (7) calendar days of occurrence.

e. Contracting Officer’s Representative (COR) or Project Representative shall:

(1) Immediately notify the Installation Safety Office of a contractor accident or injury.

(2) Ensure a written accident report is sent to the Installation Safety Office within seven calendar days of occurrence.

f. The Installation Safety Office shall:

(1) Investigate reports of injuries.

(2) Maintain the OSHA 300 Log of Injuries and Illness.

(3) Develop accident trends and analysis.

(4) Institute an accident prevention program.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(5) Maintain files of contractor’s accidents and injuries.
(6) Report all statistical information to OSHA and respective higher commands.

7-3. ACCIDENTS/INCIDENT INVESTIGATIONS

a. Investigations of Accidents and Near Misses. Supervisors shall assign a subordinate to investigate all accidents and near misses in their areas and maintain written reports of the investigations. The Installation Safety Office will provide support as needed.

b. Accident and near miss investigations shall:

(1) Be conducted by personnel trained in general accident investigation techniques. Personnel who were not involved in the accident or who do not supervise the injured employee(s) may assist with the investigation to minimize potential conflicts of interest.

(2) Document the entire sequence of relevant events.

(3) Identify all contributing factors, emphasizing failure or lack of hazard controls.

(4) Determine whether the safety and health management system was effective, and where it was not, provide recommendations to prevent recurrence.

(5) Not place undue blame or reprisal on employees, although human error can be a contributing factor.

(6) Assign priority, time frames, and responsibility for implementing recommended controls.

(7) The result of investigations should include, at a minimum, a description of the incident and the corrections made to avoid recurrence.

7-4. COMMANDER’S CRITICAL INFORMATION REPORTING

a. The Commander’s Critical Information Reporting (CCIR) is that information the Senior Commander (SC) feels is of such importance that it will be reported as soon as practical.

b. CCIR reporting does not reduce or eliminate the need to process SIR’s or safety, security, and other reporting requirements

c. Refer to current Commander’s issued CCIR for further guidance.

7-5. FATALITY REVIEW BOARD

a. This section establishes the White Sands Missile Range (WSMR) procedures for conducting a Fatality Review Board (FRB) on the death of any Military Service Member (on or off the installation), DA Civilian or Contract Employee within the boundaries of WSMR.

b. Any Commander, Director, or Office Chief of Team White Sands experiencing the death of any Military Service Member (on or off the installation), Family Member, DA Civilian or Contract Employee within the boundaries of WSMR will notify the Commander as per Section 7-4 of this document.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
c. The SC or designee will convene a FRB within 10 days of the incident. The Secretary of the General Staff (SGS) will provide notification as to the time and place of the FRB and briefing slide suspense date. The purpose is to ensure these personnel losses are investigated in a timely manner, to identify causes or contributing factors, and determine necessary leader actions to prevent recurrences. The FRB will address, at a minimum, personal data on the victim or involved individuals, pre-incident phase (chronological sequence of events occurring within 72 hours prior to the incident), synopsis of the event, causative and contributing factors, maps, diagrams, medical findings, and casualty affairs status, corrective actions taken, and any recommendations to prevent recurrence.

d. The FRB will not be delayed waiting on toxicology, autopsy, police, or other technical reports. The safety accident investigation board or AR 15-6 investigation officer will conduct a more detailed investigation to address those aspects as appropriate. Use available information to assess what happened (if practical to do so without having to speculate), identify what lessons can be learned, and share that information as quickly as possible. Supplemental data, FRB taskers, and information may be submitted in follow-up reports, as appropriate to the SGS.

e. The FRB will be chaired by the SC or the Garrison Commander as a minimum, and will be comprised of the following members:

(1) Unit/organization chain of command/supervision from first-line Supervisor to Brigade Commander or equivalent.

(2) Installation Safety Director.

(3) Medical Treatment Facility Commander/Officer-in-Charge for Clinical Services.

(4) Staff Judge Advocate.

(5) Commanders, Directors, Office Chiefs of Team White Sands (information sharing).

(6) Other members, as required (e.g. Criminal Investigative Division, Alcohol and Drug Counseling representative, Directorate of Emergency Services, Casualty Affairs representative, Public Affairs Officer, Mental Health Services).

(7) Exemptions from this requirement must be approved by the SC or the WSMR Chief of Staff. An example warranting exemption would be commercial transportation accident (commercial airlines, bus, etc., not under contract to or under operational control of the Army) in which a Military Service Member or DA Civilian is fatally injured.

7-6. ARMY ACCIDENT CLASSES

a. Class A accident. An Army accident in which the resulting total cost of property damage is $2 million or more; An Army aircraft is destroyed, missing, or abandoned; Oran injury and/or occupational illness results in a fatality or permanent total disability. Note. Unmanned Aircraft System (UAS) accidents are classified based on the cost to repair or replace the UAS. A destroyed, missing, or abandoned UAS will not constitute a Class A accident unless replacement or repair cost is $2 million or more.
b. Class B accident. An Army accident in which—The resulting total cost of property damage is $500,000 or more but less than $2 million; An injury and/or occupational illness results in permanent partial disability; or When three or more personnel are hospitalized as inpatients as the result of a single occurrence.

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

d. Class D accident. An Army accident in which The resulting total cost of property damage is $20,000 or more but less than $50,000; A nonfatal injury or illness results in restricted work, transfer to another job, medical treatment greater than first aid, needle stick injuries, and cuts from sharps that are contaminated from another person’s blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss; or work-related tuberculosis case. Class E ground accident. An Army ground accident in which the resulting total cost of property damage is $5,000 or more but less than $20,000.

e. Class E aviation accident. An Army aviation accident in which the resulting total cost of property damage is $5,000 or more but less than $20,000.

f. Class F aviation incident. Recordable incidents are confined to aircraft turbine engine damage because of unavoidable internal or external foreign object damage, where that is the only damage (does not include installed aircraft auxiliary power units). These incidents will be reported using DA Form 2397–AB (Abbreviated Aviation Accident Report (AAAR) for All Class C, D, E, F, Combat A and B, and All Aircraft Ground); check “F” in the “Accident Classification” block.
CHAPTER 8- STANDING OPERATING PROCEDURES

8-1. RESPONSIBILITIES:
   a. Director, Installation Safety Office shall:
      (1) Assist in the identification of hazards and required protective measures upon request.
      (2) Review and recommend approval of all hazardous, explosive and ammunition SOPs prior to submitting for Command approval.
      (3) Maintain an inventory of current hazardous and explosives SOPs.
   b. Directors/Team leaders/Contractors shall:
      (1) Ensure all hazardous operations or areas are identified.
      (2) Ensure that SOPs are developed for all explosives, ammunition and hazardous operations.
      (3) Ensure a hazard analysis is prepared and included as part of the SOP.
      (4) Review and ensure SOPs are signed by the branch and section chiefs prior to submittal to the Installation Safety Office (ISO).
      (5) Ensure that a copy of the approved SOP is available at the site of the operation(s).
      (6) Ensure hazardous operations are not conducted without an approved SOP.
   c. Supervisors shall:
      (1) Provide surveillance of operations to ensure prompt identification of actual or potential hazards.
      (2) Ensure a hazard analysis is prepared for all hazardous and explosives operations. (Appendix K)
      (3) Ensure all pages of the hazard analysis is signed and dated by the preparer and approver.
      (4) Maintain current SOP files for hazardous and explosives operations and enforce their requirements.
      (5) Ensure compliance with safety requirements by all operators and visitors.
      (6) Ensure SOP is reviewed and sign the "Supervisors Statement" when:
         (a) First assigned to the operation.
         (b) An approved formal or interim change is made to an SOP.
         (c) An operation is started up after an extended period of inactive status (15 or more working days).
         (d) At least once a quarter, as a minimum.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(7) Review SOPs annually to determine need for changes. If no changes, request approval for continued use from ISO. Ninety days prior to 2 years from original approval date submit SOP for renewal.

d. Employees shall:
   (1) Follow the procedures outlined in the SOP.
   (2) Review SOP and sign the "Operators Statement" when:
      (a) He/she is first assigned to the operation.
      (b) An approved formal or interim change is made to an SOP.
      (c) An operation is started up after an extended period of inactive status (15 or more working days).
      (d) At least once a quarter, as a minimum.

8-2. GUIDELINES FOR SOP DEVELOPMENT PROCEDURE: Prior to starting any operation involving ammunition, explosives or other hazardous operations, adequate SOPs will be developed. Due to the stringent health physics, technical and internal safety standards used in the development of the operational procedures for the Fast Burst Reactor (FBR), internally developed procedures are accepted in lieu of an SOP. Procedures must be reviewed by the Installation Safety Office.

   a. A Hazard Analysis is the first step in preparing an SOP. Hazard Analyses provide the users with identification and assessment of potential hazards and the formulation of necessary measures to control identified hazards. Additional guidance is found in AR385-10, DA Pam 385-10 and DA Pam 385-30.

   b. Directors, Activity Chiefs, Supervisors, and Test Directors will convene Operational Test Readiness Reviews (OTRR), or similar technical review committees. Safety managers will ensure that, OTRR’s or technical review committees are convened and properly staffed to support the risk management process. A detailed description of responsibilities can be found in ATEC Regulation 385-1, Chapter 13.

   c. SOPs will address safety requirements and precautions; Personal Protective Equipment (PPE); environmental treatment; storage; disposal; spill requirements; personnel and explosive or material limits; equipment designation and location; emergency telephone numbers and contacts; sequence of operations and any other pertinent information to make the operation safer. No deviation from the SOPs shall be permitted without the approval of the WSMR Commander or his designated representative and the Installation Safety Office.

   d. SOPs for any operation that pose potential personnel hazards or generate potential pollutants as indicated by the hazard analysis will be validated by performing a dry run, pathfinder or similar process (not a tabletop exercise) prior to final SOP approval. The purpose of the validation is to verify the instructions in the SOP are clear to the operators and the execution of the steps in the SOP create no conditions that would constitute an unacceptable risk to the health or safety of personnel or to the environment. Human Research Protection Plan, (HRPP) reviews are required for ALL SOPs related to
test activities. Those SOPs not applicable to test activities (routine shop or equipment operations) do not require an HRPP Review Form. Form located in Appendix K)

e. Supervisors and operators will read the SOP and sign the appropriate Supervisor's or Operator's statements when thoroughly familiar with SOP instructions.

8-3. REQUIREMENTS FOR PREPARATION OF HAZARDOUS AND EXPLOSIVE SOPs:

a. SOPs describe and prescribe how a procedure is to be performed. It is a written guide indicating who (by job title) performs various steps in a procedure and in what sequence the steps are carried out. The hazard analysis is the basic tool for writing the SOP.

b. Operations involving ionizing and non-ionizing radiation must be completed in accordance with chapter 21 of this regulation.

c. Hazardous, explosives and ammunition SOPs must be written in accordance with ATEC-R 385-1 and contain all information elements identified in AMC R 700-107, Conventional Ammunition Section.

d. Cover sheet must be signed by the branch and section chief and (as applicable) the Project Sponsor.

e. For explosives/ammunition SOPs, the Supervisors and Operators statements will contain the statement "All Personnel Performing Ammunitions/Explosives Operations/Functions Will Be Ammunition certified IAW ATEC 385-1, Chapter 14."

f. For explosives and ammunition operations: The White Sands Missile Range SOP number will be assigned by the ISO.

g. Hazardous Operations: The White Sands Missile Range SOP number will be assigned by the ISO.

h. Hazard Analysis: Each page must be signed and dated by the preparer and approver. The hazards and exposures shall be qualitatively evaluated by applying the 5-step Risk Management Process (Risk Assessment Matrix specified in Chapter 13, ATECR 385-1. Risk Assessment Codes (RAC) will be assigned IAW Table 13-1, Test Risk Assessment Matrix, ATECR 385-1).

i. The SOP shall contain detailed operating instructions for each hazardous operation and shall specify:

(1) Personal protective clothing and equipment. Refer to Chapter 27 for use of Test Specific PPE.

(2) Grounding requirements.

(3) Safety inspection and equipment requirements.

(4) Other applicable safety requirements and necessary warnings/precautions.

(5) Minimum number of personnel required for task and maximum number allowed in the area while the task is being performed.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(6) Minimum amount of hazardous material, explosives or ammunition required for the task and the maximum allowed in the area while the task is being performed.

(7) Emergency containment procedures for the hazardous materials.

j. Manufacturer's operating and maintenance instructions, technical publications, and engineering orders, may be submitted for approval as enclosures to SOPs.

k. Safety Data Sheets (SDS) as required.

l. A copy of the signed SOP shall be given to each member of the organization that has signed the SOP. The Installation Safety Office will return one copy of the SOP to the originator.

8-4. REVIEWS, CHANGES, AND REVISIONS:

a. Active SOPs shall be reviewed annually to determine the need for changes or additions. If no revisions have been made and the SOP is still required, a request for an extension of 1 year must be submitted to the ISO. All SOPs shall be updated, including the signature page, two (2) years after the date of approval. Requests for an extension past 2 years without updating will not be accepted. Review dates shall be computed from the date of approval.

b. Revisions shall be prepared and published in the same manner as the original SOP. Each revised page shall bear the same number as the original page. Changes shall be annotated by a bar on the side and the revision number noted at the top of the page. When a revision has been approved, the original page shall be withdrawn and the revised page inserted within the SOP

8-5. ADMINISTRATIVE PROCEDURES FOR REVIEWING SOPS:

a. Request for annual review and extension/continued use of an SOP must be submitted to the Installation Safety Office (ISO) 21 working days prior to the date an ISO approval is required. Request for review of a new SOP must be provided to the Installation Safety Office 60 (sixty) days prior to the date an ISO approval is required. New SOP's that are submitted within less than 45 working days of a required test will be supported by an impact statement or statement of criticality signed by the Commanding General/WSMR Commander. This will facilitate continuity of operations while changes and reviews are being performed, if required. Each reviewer of an organization required to review an SOP will be allowed adequate time (no less than 5 working days) for their review.

b. Active SOPs will be reviewed annually by the ISO. Every two years, all affected organizations are required to resubmit the SOP for Command approval. SOPs not renewed will be purged from the ISO files.

c. Extensions will be granted only with written approval of the Commander. Request for extension beyond the expiration date or deviation, will be in writing from the proponent's Director to Director, ISO for approval by the Commander. Request for "short fused" SOP reviews will also be in writing from the proponent's Director to Director, ISO for the Commander's approval

d. Request for extensions should include the following:

(1) SOP Title

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(2) Expiration date of the SOP

(3) Length of extension being requested

(4) Reason the proponent cannot update the SOP

e. The Command Group and/or Director, Installation Safety Office will grant the request to the proponent (which will be in writing with a copy furnished to the Installation Safety Office) or provide to the Installation Safety Office for review of request and recommendation.

8-6. CANCELLATIONS: When a program is completed or canceled and a SOP is no longer required, ISO shall be notified, in writing, to rescind the SOP.
CHAPTER 9- SYSTEM SAFETY ENGINEERING AND MANAGEMENT

9-1. RESPONSIBILITIES:

a. Chief, Test Center Safety shall provide adequate funding and resources for the implementation and maintenance of an effective system safety verification program. Adequate resources include both the funds and a qualified system safety engineer (SSE) to manage the system safety verification program (SSVP) to ensure that the requirements of DA PAM 385-16 with supplements are implemented.

b. The Materiel Test Directorate Director shall:
   (1) Provide the services of a qualified MANPRINT evaluator.
   (2) Ensure that funding for overtime pay and temporary duty (TDY) expenses will be included in project cost estimates.
   (3) Use safety and health data from similar test programs and US Army Safety Center data files, the Safety Assessment Report (SAR), the initial safety and health inspection(s), and safety release information, whenever available, in preparing system safety documentation.
   (4) Provide, Test Center Safety, System Safety Engineer with the following documentation for review and concurrence:
      (a) Hazard Analyses - Hazard Analyses for new and existing systems to include new facilities will be conducted by the developer. Examples of the different Hazard Analyses that are required are: Preliminary Hazard Analysis, Subsystem Hazard Analysis, System Hazard Analysis, Failure Modes and Effects Analysis, Operating Support and Hazard Analysis, Sneak Circuit Analysis, and Software Hazard Analysis.
      (b) SARs within 60 workdays following receipt
      (c) Detailed Test Plans (DTP)
      (d) Safety Related Test Incident Reports (TIRs)
      (e) Safety Release Recommendation (SRR) - A draft SRR copy shall be provided for concurrence and comments prior to submittal. A final copy will be provided to the SSE to maintain in the system safety verification files.
      (f) Test Reports
      (g) Test Operating Procedures (TOPs)

c. Test Center Safety shall:
   (1) Ensure the system safety approach utilized in the procurement of equipment, materiel, and services are safe.
   (2) Ensure safety, consistent with White Sands Missile Range mission requirements, is designed into systems in a timely and cost-effective manner.
   (3) Assign a qualified SSE to implement the White Sands Missile Range SSVP.
(4) Assign a qualified SSE to review test Program Manager’s (PM), Test Conductor’s Program Engineer’s, and Contracting Officer Representative’s (COR) safety documentation to determine the adequacy of that documentation.

(5) Provide the services of qualified safety personnel to assist in facilities and test systems operational readiness inspections.

(6) Immediately report accidents and safety related test incidents to the Director, Test Center Safety.

d. The System Safety Engineer assigned shall:

(1) Manage the SSVP, to include development of local program policy.

(2) Review test documentation (e.g., test directives, test plans, test reports, program introductions (PI), operational requirements (OR), SAR, DTP, TIR, safety release recommendations (SRR), TOP, etc.)

(3) Verify the adequacy and completeness of the system test package (e.g. equipment, manuals, hazard analysis, standing operating procedures (SOPs), etc.)

(4) Verify hazards associated with each system are identified, tracked, evaluated, and eliminated, or the associated risk reduced to a level acceptable throughout the entire life cycle of the system.

(5) Verify safety data documented by “lessons learned” are submitted as proposed changes to applicable design handbooks and specifications.

(6) Use historical safety data, including lessons learned from other systems in the evaluation of Army systems.

(7) Ensure actions taken to eliminate hazards or reduce risk to an acceptable level are documented.

(8) Provide technical assistance to the Materiel Test Directorate’s MANPRINT evaluator in performing materiel system safety inspections for the purpose of issuing SRR, Safety Confirmation Recommendations (SCR). Inspections are not limited to work being performed on White Sands Missile Range.

(9) Develop safe acceptable work-arounds for identified hazards and implement these procedures in the SRR.

(10) Ensure changes in design, configuration, or mission requirements are accomplished in a manner that maintains minimal risk level.

(11) Ensure actions are taken to minimize the use of hazardous materials.

(12) Verify the adequacy and completeness of the testing (e.g., elements to correct identified hazards, safeties, and interlocks, etc.)

(13) Verify corrective actions to the system.

(14) Participate in pre-design and design reviews, pre-planning and planning test meetings, and in-process reviews for systems being tested or facilities planned on White Sands Missile Range.
Participate in special task forces, study groups, and work groups (e.g., system safety working group (SSWG), and test integrated working group (TIWG), etc.) to address safety issues and concerns and review system safety program activity. When these issues and concerns involve hazards from chemical, biological, physical agents, or ergonomic concerns, contact Industrial Hygiene, McAfee Clinic for inclusion in the group.

Provide formal training in the form of classroom presentations on subjects such as System Safety Procedures and Responsibilities and System Safety Hazard Analysis Techniques to test conductors and test engineers.

e. Contractor system safety program requirements will be tailored according to the guidance contained in Military Standard (MIL-STD) 882E “Standard Practice for System Safety”. Some general system safety requirements are:

1. Eliminate identified hazards or reduce associated risk through design by material selection or substitution. When potentially hazardous materials are used, select those with least risk throughout the life cycle of the system.

2. Design to minimize risk created by human error in the operation and support of the system.

3. Consider alternate approaches to minimize risk from hazards that cannot be eliminated. Such approaches include interlocks, redundancy, fail-safe design, system protection, fire suppression, and protective clothing, equipment, devices, and procedures.

4. When alternate design approaches cannot eliminate the hazard, provide warning devices, warning and caution notes in assembly instructions, operations, maintenance, repair instructions, and distinctive markings on hazardous components, materials, equipment, and facilities.

5. Design software controlled or monitored functions to minimize initiation of hazardous events or mishaps.

6. Review design criteria for inadequate or overly restrictive requirements regarding safety. Recommend new design criteria supported by study, analyses, or test data.
CHAPTER 10 – SAFETY TRAINING REQUIREMENTS

For Safety Training Requirements refer to AR 385-10, DA PAM 385-10, and Appendix C of this document.
CHAPTER 11- LOCKOUT AND TAGOUT PROCEDURES

11-1. REQUIREMENTS: Supervisors or managers are required to approve procedures for employees who will use, service, or maintain machines or equipment. For additional requirements refer to 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

11-2. RESPONSIBILITIES:
   a. The Installation Safety Office shall:
      (1) Review and approve supervisors’ or managers’ lockout/tagout procedures.
      (2) Conduct periodic inspections, at least annually, of supervisors’ log to ensure that the approved procedures are strictly adhered to.
   b. Supervisor or managers shall:
      (1) Develop lockout/tagout procedures for machines, systems and equipment.
      (2) Give advance written or verbal notification to users of lockout and tagout machines and equipment by authorized employees.
      (3) Ensure lockout devices are attached in such a manner as to hold the energy-isolating device in a safe position.
      (4) Maintain a certification log for all lockout/tagout actions.
      (5) Review lockout/tagout procedures, at least annually.
      (6) Ensure all affected and authorized employees are trained in the purpose and use of lockout/tagout procedures.
      (7) Provide retraining to all authorized and affected employees whenever there is a change in job assignments, a change in machines, equipment or processes that presents a new hazard, or when there is a change in the energy control procedures.
      (8) Ensure that each lockout and tagout device is removed from each energy-isolating device only by the authorized employee who applied the device.
      (9) Clear their personnel lock and tag protection in the event that authorized employee is not available to remove the lock and tag.
      (10) Ensure the equipment or machine has been tested prior to placing in operational service.
      (11) Notify affected government or contractor personnel prior to the pre-arranged release of the equipment of the lockout/tagout action.
      (12) Ensure that all employees under their direct supervision are aware of lockout/tagout requirements and that applicable materials are available for use.
      (13) Note the hazards on the employee’s Job Hazard Analysis.
   c. Contractor personnel shall:

*This document supersedes WSMR 385-18 RAR 02 Feb 12*

(2) Provide White Sands Missile Range contracting officer representative a copy of their respective lockout/tagout procedures.

d. WSMR Contracting Officer Representative shall:

(1) Provide the Installation Safety Office with a copy of contractor’s lockout/tagout procedure for review.

(2) Monitor contractor operations and verify that lockout/tagout procedures are in place and enforced.

(3) Report to ISO violations of this requirement.

(4) Responsible for adhering to established lockout/tagout regulatory requirements, policies and procedures.
CHAPTER 12- ELECTRICAL AND ELECTRONICS

12-1. REQUIREMENTS: Supervisors or managers are required to develop procedures for employees who will work on or maintain electrical and electronic equipment, and when employees must troubleshoot electrical equipment.

12-2. RESPONSIBILITIES:

a. The Installation Safety Office shall:
   (1) Review supervisors or managers safety procedures.
   (2) Monitor training provided to supervisors and employees on electrical and electronics safety.

b. Supervisors shall:
   (1) Prepare written procedures for work performed on electrical/electronic equipment designated as hazardous. Provide procedures to the Installation Safety Office for review submit as per guidance in Chapter 8.
   (2) Ensure that qualified and unqualified personnel are trained in recognizing electrical hazards in their work area as per 29 CFR 1910.333, Selection and Use of Work Practices...
   (3) Maintain electrical equipment free of electrical hazards.
   (4) Ensure qualified personnel are certified in cardiopulmonary resuscitation (CPR) and that the names of these personnel are provided in writing to Occupational Health.
   (5) Ensure personnel are trained annually on the safety precautions applicable to the electrical work they do.
   (6) Maintain an emergency safety kit in accordance with paragraph f of this chapter and TB 385-4, 3.8.6 which contains items for use in electrical emergencies and first aid to electrical shock victims.
   (7) Inspect and document emergency kit monthly to ensure all items are available and in good condition.
   (8) Note the hazard on the employee’s Job Hazard Analysis.

c. Qualified employees shall:
   (1) Ensure all circuits are de-energized prior to start of repair or installation of new electrical systems. Voltages under 50 volts to ground need not be de-energized.
   (2) Be trained in and familiar with the following:
      (a) Skills and techniques necessary to distinguish and determine nominal voltages from exposed live parts.
      (b) Minimum safe distance from electrical hazards.
(3) Lockout and tagout exposed parts not deenergized (for reasons of increased or additional hazards or infeasibility) in accordance with chapter 11.

(4) Never close a switch unless certain that it is safe to energize the circuit and all equipment connected to it.

(5) Never wear conductive articles of jewelry and clothing.

(6) Never use portable ladder with conductive siderails.

(7) Never work on exposed electrical circuits in a confined or enclosed workspace without protective shields, barriers, or insulating materials.

(8) Ensure grounding and bonding of equipment meets the National Electrical Code or 29 Code of Federal Regulation, Subpart S requirements.

(9) Never perform maintenance or repair on x-ray equipment unless grounded and bonded in accordance with the National Electrical Code.

(10) Maintain and repair non-ionizing and ionizing equipment in accordance with chapter 21.

(11) De-energize and ground large capacitors or pulse forming networks prior to maintenance and repair.

(12) Employ one of the following alerting techniques to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment or parts:

   (a) Safety signs and tags

   (b) Barricades

   (c) Attendants

(13) Be familiar with the location and content on the safety board or emergency kit.

d. All employees shall:

   (1) Inspect power tools, extension cords, or other electrical equipment for exposed electrical hazards such as bare wires, exposed wires, and improper grounding before use.

   (2) Not handle portable equipment in a manner that may cause damage to the power cord.

   (3) Avoid using electrical equipment or tools when there is potential for water contact to either person or equipment. When work cannot be avoided, install a Ground Fault Circuit Interrupter (GFCI) at connection point nearest to operator.

   (4) Use only approved electrical insulated tools.

   (5) Remove and tagout damaged equipment from service until the equipment has been repaired and retested by qualified personnel.

   (6) Not operate any system switch, circuit breaker, or other disconnecting devices unless employee is thoroughly familiar with the equipment involved.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(7) Use load rated switches, circuit breakers, or other devices specifically
designed as disconnecting means for opening, reversing, or closing of circuits under load
conditions.

(8) Use approved electrical insulated tools.

(9) Wear nonconductive headgear wherever there is a danger of head injury.

(10) Wear face and eye protection wherever there is a danger of injury to the eyes
or face from electric arcs, flashes, or from flying objects resulting from an electrical
explosion.

(11) Use nonconductive ropes and handlines.

(12) Be familiar with the location and content on the safety board or emergency
kit.

e. Contractor personnel working on electrical and electronic equipment shall meet
reference requirements Lockout and Tagout Procedures (Para 12-3)

f. Emergency/Rescue Equipment. Each maintenance facility in which personnel are
exposed to 50 volts or higher shall maintain emergency equipment in readily accessible
and conspicuous locations. This equipment shall include items for use in electrical
emergencies and for first aid to electrical shock victims. These items must be reserved for
emergencies; they may not be used for routine purposes. Emergency equipment shall be
inspected monthly to ensure that all items are available and in good condition. Mobile
maintenance facilities and transportable maintenance shelters that are not readily
accessible to a medical facility should be provided with a General Purpose First Aid Kit,
NSN .6545-00-922-1200.

(1) Required Emergency/Rescue Equipment. The following items are required for
emergency equipment:

(a) General Purpose First Aid Kit, NSN 6545-00-922-1200, or equivalent.

(b) Grounding stick, fabricated locally, as shown in Figure 3-1.

(c) Safety hook, fabricated locally, as shown in Figure 3-2.

(d) Flashlight.

(e) Emergency procedures and telephone numbers: ambulance, hospital, doctor,
etc.

(2) Recommended Emergency/Rescue Equipment. The following items are
recommended for emergency equipment.

(a) Rope, halyard, 3/8 inch, 25 feet, NSN 4020--00-174-3031.

(b) Resuscitators, etc., approved by the local medical authority.

(c) Grounding cables, AWG #10 stranded, with clips, fabricated locally as shown
in Figure 3-1.

(d) Gloves, rubber, 3000 volts (NSN: 8415-00-782-2140/41/42/43 for sizes 9
through 12). The items in the kit should be checked monthly and replaced as needed. If
used, voltage rated glove testing should be performed in accordance with manufacturer recommendations every six months.
CHAPTER 13- CONFINED SPACE ENTRY

13-1. GENERAL SAFETY REQUIREMENTS FOR CONFINED SPACE OPERATIONS -
(Definition: Space large enough to enter; limited or restricted entry or exit; not designed for continuous worker occupancy)

a. No individual will enter a space meeting the definition of a "confined space" unless and until the requirements of this chapter are fully complied with. All confined spaces will be treated as "permit required confined space" until they have been evaluated by the Fire Department, the Installation Safety Office or other qualified and designated personnel.

b. If rescue of an entrant is required, IMMEDIATELY call 678-1234 or 911, before taking any other action, and provide the dispatcher with the requested information.

13-2. SPECIFIC SAFETY LIMITATIONS ON CONFINED SPACE ENTRY:

a. No entry into or work within a hazardous atmosphere will be allowed under any circumstances for any reason. If any one or several of the following conditions exist (or if the following conditions are suspected) all personnel are to exit the immediate area, secure it if reasonable, and notify the White Sands Missile Range Fire Department. All entries into the confined space will be denied until the same following conditions are remedied or abated:

   (1) If oxygen concentration levels are below 19.5% or above 23.5%.

   (2) If any flammable gas, vapor, or mist is present in excess of 10% of its lower flammable level (LFL).

   (3) If any airborne combustible material is present in a concentration that meets or exceed its LFL.

   (4) If any atmospheric condition may be present which is immediately dangerous to life and health.

   (5) If mechanical, hydraulic, electrical hazards or other hazardous energy sources cannot be shut down and secured as a condition of entry and work.

   (6) If engulfment, entrapment, or any other physical or biological hazards cannot be eliminated or controlled through in-place engineering controls and protective devices, the Fire Department must be contacted prior to commencement of work and issuing of permit. Additional attendants must be designated by the work supervisor and be in place to support emergency egress or rescue.

   (7) Under all conditions, if the designated attendant must leave the support site, the entrants must exit the confined space until the attendant returns.

13-3. RESPONSIBILITIES: The Fire Department is the approver for all confined space entry and all work within confined spaces in accordance with 29 CFR 1910.146.

a. This authority has been operationally delegated to the Fire Department who may further sub-delegate operational authority to implement and manage confined space entry to White Sands Missile Range Directorates, Tenant Commanders and Contractors upon
their request. Requesting organization’s personnel must complete a Confined Space Management training and certification program.

b. The Fire Department/Installation Safety Office is responsible for and has the authority to evaluate all potential confined space entry at work sites to determine if the space is a permit-required confined space. Fire Department determinations are final. Hot work permits are issued through the Fire Department.

(1) The Industrial Hygiene Section at McAfee Health Clinic shall provide guidance and technical assistance, as requested, in the issuing of confined space entry and work permits.

(2) Directors, Tenant Commanders and Contractors shall require that all personnel under their cognizance meet the requirements of this chapter for all entries into and work within confined spaces.

(3) Employers, managers and supervisors of contract personnel operating at White Sands Missile Range shall operate a confined space entry program meeting all requirements of 29 CFR 1910.146. Contractors shall contact fire Department for issuance of a hot work permit and for hot work operations conducted on or near a covered process. The permit shall document that the fire prevention and protection requirements in 29 CFR 1910.252(a) have been implemented prior to beginning the hot work operations; it shall indicate the date(s) authorized for hot work, and identify the object on which hot work is to be performed. The permit shall be kept on file until completion of the hot work operations.

(4) Government employees and military personnel shall not enter or work within confined spaces in violation of the requirements established by this chapter. All Hot Work permits will be submitted to the Fire Department prior to initiation of work.

13-4. DELEGATION OF CONFINED SPACE ENTRY AND WORK AUTHORITY:

a. Upon the recommendation of the Fire Department, the Director, Installation Safety Office, shall sub-delegate operational authority to implement and manage a confined space entry and work program to Directors, Tenant Commanders, and Contractors who have met the following requirements:

(1) The Director, Tenant Commander or Contractor has designated in writing and provided to the Fire Department the name of a Confined Space Entry and Work Manager and one or more alternates to oversee the program.

(2) All personnel designated to enter (entrant), attend and support (attendant) or directly supervise (confined space entry supervisor) work in confined spaces have completed an OSHA approved confined space training program and copies of the training documentation have been provided to the Fire Department All roles and responsibilities of entrant, attendant, and confined space entry supervisor must be accordance with 29 CFR 1910.146.

(3) The organization has obtained the required equipment, hardware, and safety equipment needed for safe operations in confined spaces. The Fire Department will consult with the organization to develop a minimum requirements package including, but not limited to: forced air ventilation equipment, portable atmospheric monitoring
equipment, safety harnesses and appropriate extraction equipment, remote communications equipment, and appropriate Personal Protective Equipment (PPE).

b. Delegation of this authority shall be for periods not to exceed 2 calendar years, at which time the Fire Department shall review operational records, certification/training documents, and the condition of organizational safety equipment to determine if the delegation will be renewed.

13-5. OPERATIONAL AND ADMINISTRATIVE REQUIREMENTS FOR ENTRY INTO CONFINED SPACES:

a. No entry into a confined space or potential confined space shall be made unless the appropriate the confined space entry supervisor has approved the entry.

b. For activities with sub-delegated authority, or contract operations, the confined space entry supervisor will perform or oversee this requirement.

c. For all other activities, the Fire Department must be contacted 24 hours in advance of the entry requirement (or immediately if it is an emergency work action) to coordinate on-site support and approval. Approval of entry and confined space work will be contingent upon the Fire Department’s ability to inspect the confined space site and provide on-duty emergency service personnel to support the entry and work. Overtime and reimbursable support for the Fire Department for this work must be coordinated at least 4 workdays in advance of the required entry date.

d. The following requirements must be met as a condition of entry:

(1) A Confined Space Entry Permit (Appendix L) must be properly prepared and posted at the job site and a copy delivered to the Fire Department (hand carry, electronic transmission via FAX or E-Mail, etc.) prior to the initial entry into the confined space. Activities without sub-delegated confined space entry and work authority must prepare the form and provide it to the Fire Department 24 hours in advance of the requested work start time.

(2) Before an employee enters the space, the internal atmosphere shall be tested, with a direct-reading instrument that has been calibrated prior to use in accordance with the manufacturers specifications, for oxygen content, flammable gases, vapors, and potential toxic air contaminants. The entry supervisor, who has successfully completed the training for the gas detector/instrument he will use, shall perform testing. A written record of the pre-entry test results shall be made and kept at the work site for the duration of the job.

(3) Atmospheric monitoring is performed immediately before entering the confined space. If there are no atmospheric hazards present within the space entry into and work within the space may proceed. Continuous testing of the atmosphere in the immediate vicinity of the workers within the space shall be accomplished. The workers will immediately leave the confined space when any of the gas monitor alarm set points are reached.

(4) All entrants and attendants are wearing the job site specific PPE required by supervisory determination and the Confined Space Entry Permit is posted at the confined space work site.
(5) Any required emergency extraction or egress equipment is installed and operational.

(6) Where feasible, positive (forced air) ventilation is in place and operational.

(7) Appropriate mechanical, hydraulic, electrical, lockouts and tagouts and control of other hazardous energy sources have been installed in accordance with Chapter 11 of this regulation.

(8) Once confined space area is cleared of entrants and work is complete, notify Fire Department via telephone, 678-5105.

13-6. OPERATIONAL AND ADMINISTRATIVE POINT OF CONTACT IF YOU HAVE ANY FURTHER QUESTIONS:

- a. Fire Chief Office - 679-5105
- b. Assistant Fire Chief Office - 678-0470
- c. Fire Captain's Office - 678-0357
- d. Installation Safety Office - 678-2305/5746
WSMRR 385-18

CHAPTER 14- AMMUNITION AND EXPLOSIVES SAFETY.

For Ammunition and Explosive Safety refer to WSMR PAM 385-64.
CHAPTER 15- CHEMICAL AND LABORATORY SAFETY

GENERAL: The Chemical Hygiene Plan (CHP) establishes responsibilities, policies and procedures for handling hazardous chemicals in the laboratory. The CHP applies to all laboratories located on White Sands Missile Range. For additional information contact Industrial Hygiene at 674-3514.
CHAPTER 16- RESPIRATORY PROTECTION PROGRAM

16-1. POLICY:

   a. The purpose of this section is to outline the Respiratory Protection Program (RPP) for WSMR in accordance with AR 11-34, “The Army Respiratory Protection Program,” WSMR Policy letter #28, and Respiratory Protection Program Standard Operating Procedure. Use of respirators are required as per the WSMR Policy letter #28:

      (1) As an interim measure until proper engineering controls can be installed;

      (2) Where engineering controls are not feasible;

      (3) Where emergency respirators are required; and,

      (4) Where respiratory protection must be worn in addition to engineering controls.

   b. The ability to use Respiration Protective Equipment (RPE) shall be a condition of employment when required by the nature of the job such as noted on the individual’s job description.

   c. Each area and operation requiring RPE shall prepare a hazard analysis and an operation site Standing Operating Procedure (SOP).

   d. Workers shall not be assigned to tasks requiring the use of RPE without prior medical evaluation and approval of McAfee Medical Clinic, Occupational Health.

   e. Only MSHA/NIOSH approved respirators, assigned by the Industrial Hygiene (IH) or Occupational Health (OH) Sections, McAfee Clinic, shall be used.

   f. Only facial hair and haircuts that do not interfere with the sealing periphery of the face piece or with valve function are allowed for respiratory users.

   g. The correct respirator shall be selected and used based on the identified hazard (dusts, mists, fumes or organic vapors).

   h. The reasons for respiratory protection shall be documented through use of hazard analysis, as recommended above, or other means. NOTE: Surgical masks do not provide protection against air contaminates. They shall not be used in place of an air-purifying respirator.

   i. All personnel who choose to use a government issued respirator when one is not required (voluntary) will be included in the installation’s Respiratory Protection Program. Note: All aspects of the program including medical evaluation, training, fit testing, and recordkeeping will apply to voluntary users. The OSHA standard has less stringent requirements for voluntary users. Therefore, appendix D of 29 CFR 1910.134 will not be applicable.

   j. The use of corrective lenses including contact lenses and spectacles are permitted for those who are required to use full-face respirators in their jobs provided they do not interfere with the seal of the respirator. Full-face respirators require corrective lens insert kits.
 Contact lens use poses additional hazards in chemical environments and should be preceded by a risk assessment and approved by IH or OH. Contact lenses should not be worn under respirators in areas of potential hazard from chemical splash. Contact lenses will not be worn during basic training, field exercises, gas chamber exercises, deployments, or combat. Exception: Contact lenses may be worn in field exercises, deployments, or combat for certain duties or evaluation programs approved by the Office of The Surgeon General.

16-2. RESPONSIBILITIES:

a. Installation Safety Office, (ISO) shall:

(1) In conjunction with the United States Garrison (USAG) Commander appoint an individual from the United States Army Garrison Safety Office to act as the Installation Respiratory Program Director (IRPD) responsible for the WSMR RPP.

(2) Provide direction to the IRPD to plan and evaluate WSMR's RPP.

(3) Provide guidance to supervisors on how to prepare a standing operating procedure (SOP) on respirator use in their area.

(4) Conduct random worksite inspections to determine if RPE is properly selected, used, cleaned, maintained, and disposed of.

(5) Coordinate an annual RPP evaluation that includes a written program review, a workplace evaluation, and consultations with respirator users.

b. The Installation Respiratory Program Director (IRPD) shall:

(1) Plan, program, and annually evaluate the Installation Respiratory Protection Program according to ISO guidance as above.

(2) Initiate prompt corrective actions on deficiencies detected in the Respiratory Protection Program (RPP).

(3) Designate, in writing, an Installation Respiratory Specialist.

c. Installation Respiratory Protection Specialist (IRPS) will:

(1) Be assigned to the Installation Safety Office or designated organization.

(2) Complete a training course and be certified in Respiratory Protection.

(3) Conduct Respiratory Protection fit-testing.

(a) All Army personnel required to wear a respirator with a negative or positive pressure tight-fitting face piece must be fit tested with the same make, model style, and size respirator they will use in the workplace.

(b) Before initial use, after any model change, and at least annually, fit tests will be administered using qualitative or quantitative fit testing protocols outlined in appendix A of 29 CFR 1910.134. Additional fit testing will be conducted when changes occur in the physical condition of the employee that may affect the face seal, such as weight loss, facial scarring, dental changes, or cosmetic surgery. Consult ANSI Z88.10 for additional guidance on fit testing.

(4) Develop general procedures for regular cleaning and inspection of respirators.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(5) Following the established medical surveillance program based on McAfee Health Clinic industrial hygiene surveys and medical recommendations.

(6) Train and instruct employees in the care, use, fit and maintenance of respirators annually. Training will provide individuals with an opportunity to handle the respirator, have it fitted properly, test its face piece-to-face seal, wear it in normal air for an acclimatization period, and finally wear it in a test atmosphere (during fit testing). The training will be conducted in a manner that ensures it is understood by those personnel receiving the training. As a minimum, training will include:

(a) Why the respirator is necessary and consequences of improper fit, use or maintenance.

(b) The capabilities and limitations of the respirator, including air purifying cartridge/canisters/filters, service life, change out schedules, and any compressed air sources. Consult ANSI Z88.7 for respirator cartridge, canister, and filter color coding system information.

(c) How to use the respirator in an emergency including respirator malfunction.

(d) How to inspect, put on, check the seals for leaks, and remove.

(e) Maintenance, shelf life, and storage.

(f) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

(g) The general requirements of this Respiratory Protection Program.

(7) Select approved respiratory protection based on occupational health or industrial hygiene survey reports, the Army Respiratory Program and available literature.

(8) Approve respirator use and fit test employees annually only after determining that all requirements for medical evaluation have been completed.

(9) Maintain records of respiratory training and fit testing for the duration of employment of each respirator wearer or as specified because of a specific contaminant exposure (see AR 25-400-2).

(10) Establish procedures to make sure that cartridge/canister/filter change schedules are used and records kept.

d. The McAfee Medical Clinic, Industrial Hygiene (IH) shall:

(1) Provide guidance to the Installation Respiratory Protection Specialist to plan, program and annually evaluate the installation's RPP.

(2) Assist supervisors in the preparation of a Hazard Analysis and SOP in their particular hazardous work area.

(3) Coordinate with the Installation Respiratory Protection Specialist in RPE selection.

(4) Perform IH work site inspections to recommend the types of RPE required based on exposure assessment.
e. The McAfee Health Clinic, Occupational Health shall:

(1) Perform medical evaluations of workers to determine if they are physically and mentally fit to wear RPE. Use the medical questionnaire in 29 CFR 1910.134, appendix C. The evaluation will be completed before respirators are used by the employee.

(2) The medical evaluation will be performed prior to first-time use and a reevaluation will take place annually or when—

(a) An employee reports medical signs and symptoms that are related to the ability to use a respirator.

(b) A physician or other licensed healthcare professional, supervisor, or IRPD informs the medical commander that the employee needs to be reevaluated.

(c) Information from the Respiratory Protection Program, including observations made during fit testing and program evaluation, indicate a need for employee reevaluation.

(d) A change occurs in workplace conditions that may result in a substantial increase in the physiological burden placed on the employee.

(3) Review worker’s medical records annually. Records must be retained in the individual’s occupational medical record and Armed Forces Health Longitudinal Technology Application.

(4) Prescribe corrective lenses compatible with full face respirators.

f. WSMR Fire Department shall:

(1) Ensure compressors used for breathing air are tested at least quarterly.

(2) If test results are abnormal for at least grade “D” quality air, the WSMR Fire Department shall notify the Industrial Hygienist.

g. Directors shall ensure personnel have the required equipment to perform their tasks in a safe manner.

h. Supervisors (where RPE is used) shall:

(1) Prepare a hazardous operation SOP or approved JHA in accordance with the requirements of this regulation.

(2) Ensure workers are trained in the requirements of the SOP.

(3) Ensure workers are trained and medically qualified to use respirators.

(4) Not permit workers to perform tasks if a good face seal cannot be obtained or if proper RPE is unavailable.

(5) Supervisors will establish procedures for the following operational environments, in accordance with this regulation for: (1) Areas that may be IDLH environments and/or confined spaces. (2) Interior structural firefighting environments. The requirements for rescue and standby personnel in Immediately Dangerous to Life and Health (IDLH) situations should be included.

(6) Ensure employees use only RPE assigned by IH or OH.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(7) Note the hazard and the requirement for respiratory protection on the employee’s Job Hazard Analysis.

(8) Ensure that emergency respirators in their area of responsibility are maintained clean and ready.

i. Respirator user shall:

(1) Be familiar with the work site SOP and the use and limitations of their assigned RPE.

(2) Use only the RPE selected and assigned by the Installation Respiratory Protection Specialist in accordance with the instructions and training received.

(3) Inspect RPE prior to and after each use.

(4) Perform positive and negative pressure tests each time the respirator is used and report failure of face seal immediately to both the supervisor and the IRPS to obtain assistance.

(5) Keep assigned respirators stored in a clean and sanitary place. RPE shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, or mechanical damage. RPE shall be stored so that the face piece and exhalation valve shall not be damaged.

(6) Notify the immediate supervisor of nonfunctional equipment.

(7) Undergo prescribed medical surveillance.

(8) Notify supervisor and reschedule a fit test if any of the following occurs: weight change of 20 lbs. or greater, significant facial scarring in the area of the face piece seal, significant dental changes (i.e. multiple extraction’s without prosthesis), or acquiring dentures, reconstructive or cosmetic surgery that may interfere with face piece sealing.
CHAPTER 17- AVIATION SAFETY PROGRAM

17-1. RESPONSIBILITIES:

a. Installation Safety Office (ISO) shall:
   (1) Appoint a member to the Aviation Safety Council.
   (2) Review and comment on the White Sands Missile Range Aviation Pre-Accident Plan.
   (3) Review ground and flight safety accident forms.
   (4) Participate in inspections, surveys and investigations, when required.

b. WST-A, Army Air, Holloman Air Force Base shall:
   (1) Provide the White Sands Missile Range Aviation Safety Officer.
   (2) Serve as chairperson of the Aviation Safety Council.
   (3) Appoint members to the Aviation Safety Council.

c. The Aviation Safety Officer shall:
   (1) Assist WS-TC-OA with the Aviation Safety Program and monitor general aviation safety at White Sands Missile Range.
   (2) Coordinate and report pertinent aviation safety activities to Installation Safety Office (ISO).
   (3) Prepare accident reports in accordance with Chapter 7 of this document.
CHAPTER 18- VISION CONSERVATION AND FACE PROTECTION

18-1. REQUIREMENTS:

a. Protective eye and face equipment shall be required when there is a reasonable probability of an occupational injury to the eyes or face from flying objects, direct or reflected brightness (glare), hazardous liquids, injurious radiation, or a combination of these hazards.

b. There are two categories of eye protection - primary and secondary. Primary eye protection is goggles or industrial safety glasses. Face shields are secondary protection. Face shields are not considered primary protection for mechanical, chemical, or radiant energy. They are to be worn in conjunction with impact or chemical protection where the hazard requires a higher level of eye or face protection. Face shields are secondary protection and must never be worn without primary eye protection.

c. Industrial safety glasses, including planos (Plano - a term used for safety eyewear that does not contain an optical correction) may be equipped with detachable side shields for flying object hazards. Supervisors must determine if permanent side shields are required to be worn in the workplace. Non-side shielded glasses provide frontal protection only. Protective eyewear must be designed to meet or exceed the standards of ANSI Z87.1.

d. Emergency Eyewash Stations and Shower Equipment

(1) Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. The current ANSI standard addressing emergency eyewash and shower equipment (ANSI Z358.1) provides for eyewash and shower equipment in appropriate situations when employees are exposed to hazardous materials. ANSI's definition of "hazardous material" would include caustics, as well as additional substances and compounds that have the capability of producing adverse effects on the health and safety of humans.

(2) Requirements for eyewash stations are detailed in ANSI Z358.1, Emergency Eyewash and Shower Equipment Eyewash stations requirements:

(a) Water used in units must be potable and flow to both eyes simultaneously.

(b) The water temperature must be tepid (defined by ANSI as between 60 degrees and 100 degrees Fahrenheit).

(c) The nozzles must be protected from airborne contaminants.

(d) Plumbed units must be attached to a line providing 30 psi water pressure at a temperature appropriate to the hazard and environment.

(e) Units must require no more than 10 seconds walk to reach and must be immediately adjacent to the hazard in the case of strong acids or caustics.
(f) The valve must be able to be activated within 1 second and remain on without further use of the hands.

(g) The unit will be well marked, easily accessible, pose no hazard to the user, and be at a specified height and distance from obstructions.

(h) Employees must be trained in the location of emergency equipment and in its proper use.

(i) Emergency equipment must be regularly maintained (including weekly activation of the equipment) to reduce bacterial infestation and to assure that it is in working order and inspected at least annually for compliance with the standard. The water in a self-contained eyewash station must be refilled, disposed, and maintained in accordance with manufacturer's instructions.

(j) Squeeze bottles and other small "personal eyewash units" which provide less than 0.4 gallons per minute for 15 minutes are acceptable only as a supplement to the approved units. They can be used for immediate rinsing at the work station but the injured employee should go to an approved unit as soon as possible for the required 15 minutes.

18-2. RESPONSIBILITIES:

a. McAfee Medical Clinic, Industrial Hygiene and Occupational Health shall:

(1) Assist with the identification of eye hazard areas and recommend the proper type of protection.

(2) Provide technical expertise on matters regarding vision conservation.

(3) Provide vision screening and examine employees with eye problems.

(4) Notify the supervisor of personnel that cannot meet the minimum vision requirements to perform their job.

(5) Document eye health hazards, eye protection required, and used, the need for illumination and further assessments during annual evaluation of the workplaces.

(6) Recommend eye protection and engineering control to eliminate or control eye health hazards.

b. Installation Safety Office shall:

(1) Ensure eye hazard warning signs, labels, or decals are posted in work areas as required.

(2) Monitor work sites to ensure employees are wearing proper eye and face protection.

(3) Assist supervisors with the identification and type of protection needed for eye hazard areas.

c. Directors shall ensure personnel have proper equipment required to perform their job in a safe manner.

d. Supervisors shall:

(1) Note the hazard on the employee's Job Hazard Analysis.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(2) Attempt to engineer out potential hazard.

(3) Ensure personnel are trained in the potential job hazards and the types of eye and face protection required.

(4) Ensure personnel are not exposed to eye or face hazards unless they are wearing approved eye and face protection.

(5) Enforce the wearing, use and maintenance of eye and face protection devices.

(6) Have Plano (nonprescription) eye protection devices available for visitors and employees.

(7) Provide visitors and casual employees (personnel not normally assigned to work in or perform an eye hazardous operation) with temporary eye protection devices and ensure that eye protection is worn when entering an eye hazardous area.

(8) Ensure eye washes and deluge showers are available, accessible and functional. Perform weekly inspections and maintain written log of same.

e. Employees shall:

(1) Use eye and face protection devices or equipment whenever there is the probability of an eye injury.

(2) Wear and maintain, in a clean and reliable condition, assigned eye and face protection.

(3) Keep all appointments with the Optometrist, McAfee Health Clinic.

(4) If vision requires the use of corrective (prescription) lenses, wear goggles or glasses of the following types:

(a) Glasses whose protective lens provides an optical correction.

(b) Goggles that can be worn over corrective lens.

(c) Goggles that incorporate the corrective lenses.
CHAPTER 19- HEARING CONSERVATION PROGRAM

19-1. RESPONSIBILITIES:

a. Hearing Program Manager (HPM) – A HPM should be appointed on orders from the Installation Commander. This person, appointed, on orders, should be a military audiologist, where available, to act as the installation hearing program manager (HPM). If an audiologist is not available, the Director of Health Services (DHS) designates an otolaryngologist or other physician, such as an occupational and environmental medicine physician to act as the installation HPM. At WSMR, this would normally be the Occupational Health Physician at the McAfee Health Clinic. The HPM shall:

   (1) Manages and implements all aspects of the Army Hearing Program (AHP) DA PAM 40-501.

   (2) Develops and ensures the publication of an installation regulation detailing the local AHP.

   (3) Notifies command teams and civilian directorates of the required monitoring audiometry requirements and maintains a systematic method of scheduling audiometry (for example, by unit, birth month, or work site).

   (4) Supervises the hearing technicians who provide annual monitoring audiometry services, to include predeployment and post-deployment and follow-up evaluations. Uses authorized monitoring audiometry equipment and ensures hearing tests are provided in accordance with hearing readiness and hearing conservation requirements, or the latest guidance provided by the US Army Public Health Command (USAPHC), Army Institute of Public Health AIPH, offices.

   (5) Ensures monitoring audiometry tests are electronically captured.

   (6) Provides clinical diagnostic hearing services to noise-exposed DA Civilians who exhibit a positive STS on 2 or other diagnostic referral criteria.

   (7) Maintains an adequate supply of nonlinear and linear earplugs and a variety of preformed earplugs.

   (8) Provides training to unit medical assets or support personnel for their certification as hearing technicians.

   (9) Provides at least quarterly, or upon request, hearing readiness courses for brigade-level, battalion-level, and company-level hearing program (HP) officers. An assigned HP officer should be a noncommissioned or commissioned officer assigned to the unit where they serve as the HP officer.

b. The Installation Safety Office shall:

   (1) Ensure noise hazard warning signs and decals are posted in work areas as required. Hazardous noise areas must be posted as follows, in accordance with DA Pam 385–11.

   (2) Monitor worksites to ensure employees are wearing the proper hearing protection.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(a) Conduct announced site assistance visits and in coordination with the commander, unannounced inspections of hazardous noise industrial operations and work sites to ensure enforcement of the proper use of hearing protection around noise hazards.

(b) Conduct announced site assistance visits and in coordination with range control personnel, unannounced inspections of firing ranges to ensure enforcement of the proper use of hearing protection by range personnel as well as by individual Soldiers and DA Civilians.

(c) Report inspection results through command channels to the installation commander, unit commander, work site supervisor, HPM, and Industrial Hygiene, McAfee Health Clinic.

(3) Assist supervisors with the identification and protection needed for noise hazard areas.

(4) Assist Industrial Hygiene, McAfee Health Clinic in recommending and developing acoustical engineering controls on existing equipment.

(5) Help define specifications for all new facilities, vehicles, equipment, substantial modification projects, weapon systems, and subsystems to include noise levels (see AR 40–5). The objective of this is to ensure, if possible, a steady-state noise level of less than 85 dBA at all personnel locations during normal operations.

c. McAfee Health Clinic, Occupational Health/Industrial Hygiene shall:

(1) Identify hazardous noise areas. Industrial Hygiene will—(1) Inspect and monitor noise hazardous areas, to include firing ranges, to ensure compliance with hearing protector requirements during both announced and unannounced IH surveys. (2) Report inspection results through command channels to the installation commander, unit commander, work site supervisor, HPM, safety manager, and OHPM.

(2) Provide noise hazard evaluations.

(3) Conduct audiometric testing of employee and provide hearing conservation training at that time.

(a) New DA Civilian personnel will receive a reference audiogram as soon as possible but not later than 30 days after initial exposure. All noise-exposed and/or ototoxic-exposed DA Civilian personnel must receive annual and termination audiograms, as well as follow-up hearing tests in the event of an abnormal audiogram.

(b) Profoundly hearing-impaired DA Civilians working in hazardous noise areas must receive reference and termination audiograms.

(c) Soldiers require a termination (separation) audiogram when they;

1. Reach their expiration, term of service.
2. Retire from military service.
3. Change their branch of service, such as from Army to Navy.
4. Change their service component, such as from Active Duty to the ARNG.
5. Change their service status from military to DA Civilian.
(d) DA Civilians require a termination audiogram when they:

1. No longer work in hazardous noise operations.
2. Terminate their employment.
3. Change their service status from DA Civilian to military.

(e) Annual hearing health education can be delivered at the time of annual hearing surveillance and should include the following topics:

1. Effects of noise on hearing.
2. Purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types; and instructions on their selection, fitting, use, and care.
3. Purpose of audiometric testing, and an explanation of test procedures and results.

(f) Additional hearing health education topics for Soldiers may include the following:

1. An overview of the AHP.
2. The importance of hearing as a critical sense for mission accomplishment.
3. The mechanisms of hearing loss, and the impact of hearing loss on communication during training, operational exercises, and combat missions.
4. The selection, fit, use, and care of hearing protectors, and the importance of hearing protector use during training.
5. The purpose of hearing readiness monitoring, to include hearing tests.

(4) Notify the employee and his supervisor if the employee has a significant hearing shift and refer that employee for further medical evaluation.

(5) Provide personnel whose periodic audiogram indicates a positive Significant Threshold Shift (STS) with fit testing and targeted education and counseling for purpose of mitigating any further progression of hearing loss (see DA PAM 40-501 concerning fit-testing for hearing protection).

(6) Coordinate with Safety in recommending and developing acoustical engineering controls on existing equipment.

(7) Soldiers and deployable DA Civilians with hearing readiness requirements will be refitted with preformed earplugs at least annually. Refit and/or integrity checks should be accomplished during:

(a) Scheduled hearing readiness monitoring.
(b) Annual unit hearing health education briefings.
(c) SRP.

d. The supervisor shall:

*This document supersedes WSMR 385-18 RAR 02 Feb 12*
(1) Identify potential noise hazardous areas and request an evaluation be performed by McAfee Health Clinic, Industrial Hygiene.

(2) Notify Industrial Hygiene of changes in personnel or changes in process or equipment that alter noise production within 30 days of these changes.

(3) If a suspected area is determined to be noise hazardous the supervisor will institute measures to reduce or abate the hazard. Whenever feasible, use engineering controls to reduce steady-state noise levels to below 85 dBA and impulse noise levels to below 140 dBP. If these levels cannot be met, reduce the noise to the maximum extent possible. Industrial Hygiene, after consulting with an acoustical engineer, when appropriate, may recommend various noise-control measures (see DA PAM 40-501).

(4) Initiate procedures for personnel to be enrolled in the Army Hearing Program in accordance with Department of Defense Instruction (DODI) 6055.12. DA Civilian personnel and Soldiers in industrial operations will be enrolled in the hearing conservation component of the Army Hearing Program (AHP) when they are occupationally exposed to the following:

   (a) Continuous and intermittent noise (20 to 16,000 Hz) that has an 8-hour TWA noise level of 85 decibels A weighted (dBA) or greater.

   (b) Impulse noise sound pressure levels (SPLs) of 140 decibels peak (dBP) or greater.

   (c) Ultrasonic exposures which occur under special circumstances that require specific measurement and hazard assessment calculations.

   (d) Known or suspected ototoxins. Enrollment in the AHP is required when the exposure to the ototoxin exceeds 50 percent of the occupational exposure limit.

(5) Prepare, maintain and provide McAfee Health Clinic, Industrial Hygiene with a list of names of personnel with hazardous noise exposure.

(6) Ensure that personnel exposed to hazardous noise report to Industrial Hygiene, McAfee Health Clinic for audiometric testing as scheduled.

(7) Enforce the use of properly-fitted hearing protection by all noise-exposed personnel under their supervision and take disciplinary action, as appropriate, for noncompliance.

(8) Set the example by always using hearing protection where required, receiving hearing tests, as appropriate, and attending annual hearing health education training.

(9) Ensure visitors and casual employees (personnel not normally assigned to work in or perform hazardous noise operations) are provided and wear hearing protection devices when in a noise hazardous area.

(10) Note the hazard on the employee’s Job Hazard Analysis.

(11) Provide written responses to personnel conducting hazardous noise area inspections. Responses made to personnel conducting the inspection must include planned actions to correct deficiencies.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(12) Supervisors or unit commanders should include AHP responsibilities in the first-line DA Civilian supervisor’s performance standards.

(13) Post signage as per the following:

(a) Post the entrance to, or periphery of, hazardous noise areas (85 dBA to 100 dBA) with the appropriate CAUTION sign.

(b) Post the entrance to, or periphery of, hazardous noise areas above 100 dBA with the appropriate DANGER sign.

(c) Post hazardous noise tools and equipment (85 dBA to 100 dBA) with the appropriate CAUTION sign, label, or tag.

(d) Post extremely hazardous noise tools and equipment (above 100 dBA) with the appropriate DANGER sign, label, or tag.

(e) Post all firing ranges and other impulse areas (140 dBP and above) with appropriate DANGER signs. Post 140 dBP noise contours with DANGER signs.

e. Employees shall:

(1) Wear and maintain, in a clean and reliable condition, assigned hearing protection. DA Civilians and Soldiers must wear appropriate hearing protection when working with or around equipment, vehicles, aircraft, or weapons that produce hazardous noise levels, as follows:

(a) Exposure to steady state noise levels of 85 dBA of any duration, to 103 dBA TWA duration requires single hearing protection (that is, earplugs or earmuffs).

(b) Exposure to steady state noise levels of 103 dBA TWA and up to and including 108 dBA TWA requires the use of double hearing protection (either earplugs and helmet, or earplugs and noise muffs).

(c) Exposure to steady state noise greater than 108 dBA TWA is not permitted. Exception: The 108 dBA TWA limit may be increased by demonstrating that at-ear levels are reduced to a TWA of 85 dBA or less using attenuation reduced by one standard deviation based on method A (experimenter fit) of ANSI S12.6–1997.

(d) Exposure to impulse noise levels of greater than 140 dBP to 165 dBP requires the use of single hearing protection.

(e) Exposure to impulse noise levels greater than 165 dBP, but less than or equal to curve Z per MIL–STD–1474D (requirement 4, see fig 4–1) requires the use of double hearing protection.

(f) Exposure to some impulse noise may requires approval from The Surgeon General (see DA PAM 40-501).

(2) If a DA Civilian employee violates hearing protector requirements or fails to comply with audiometric evaluation procedures and/or hearing health education training, the employee’s supervisor will apply appropriate disciplinary action in accordance with AR 690–700, or Technical Personnel Regulation (TPR) 752 for ARNG 32 USC technicians. Appropriate penalties for failure to observe written regulations, orders, rules, or procedures are stated in AR 690–700 or TPR 752, as applicable. The table of penalties.
for various offenses range from a written reprimand to permanent removal, depending on the safety risk and the number of times the failure occurs. Army major command or activity regulations and policies or collective bargaining agreements may also apply. If military personnel violate hearing protector requirements or fail to comply with audiometric evaluation procedures, the chain of command will apply the appropriate disciplinary action.

(3) Ensure earmuffs make a good seal around the ear. Glasses, long sideburns, long hair, and facial movements, such as chewing, can reduce protection. Special equipment is available for use with glasses.

(4) Keep all appointments with Occupational Health, McAfee Health Clinic.
CHAPTER 20- BLOODBORNE PATHOGENS (BBP) EXPOSURE CONTROL PROGRAM

20-1. GENERAL: OSHA requires employers to perform an exposure determination to decide which employees may incur occupational exposure to human blood or other potentially infectious materials. Each affected organization is responsible for creating, implementing, and reviewing annually and updating as necessary their Exposure Control Plan for their organization. The McAfee US Army Health Clinic and the Installation Safety Office shall assist with reviewing and updating of plans.

a. The McAfee US Army Health Clinic shall:
   (1) Assist in review and updating of the Bloodborne Pathogens Exposure Control Plan.
   (2) Provide appropriate medical surveillance and care including immunization against Hepatitis for all personnel in matters pertaining to bloodborne pathogens.

b. Supervisory personnel shall:
   (1) Ensure all relevant personnel receive required training
   (2) Ensure all relevant personnel are aware of the Hepatitis B vaccination program.
   (3) Promptly report exposure incidents to Installation Safety Office, Occupational Health, and Department of Labor.
   (4) Verify organization adherence to proper engineering for control of workplace BBP risk.
   (5) Provide adequate personal protective equipment for the specific workplace biologic hazards.
   (6) Note the hazard on the employee’s Job Hazard Analysis.

c. The employee shall:
   (1) Comply with training requirements of this standard.
   (2) Undergo vaccination against Hepatitis or decline such vaccination in writing as specified in this standard.
   (3) Properly use personal protective equipment for all biohazard job functions.
   (4) Promptly report exposure to biohazard BBP materials to supervisors.
   (5) Promptly report any unsafe work conditions to supervisors.

20-2. PROGRAM REQUIREMENTS:

a. Exposure determination:
   (1) OSHA requires employers to perform an exposure determination to decide which employees may incur occupational exposure to human blood or other potentially
infectious materials. The exposure determination is made without regard to the use of personal protective equipment (i.e., employees are considered to be exposed even if they wear protective equipment). This exposure determination is required to list all job classifications in which all employees may be expected to incur such occupational exposure, regardless of frequency. At this installation the following job classifications are in this category:

(a) Military Police and Civilian Police/Guards
(b) Firefighters
(c) Dental Care Providers
   1. Dentists
   2. Dental assistants
   3. Dental hygienists
(d) Medical Providers
   1. Doctors
   2. Nurses
   3. Medics
   4. Medical Lab Workers
   5. X-Ray Technicians
(e) Childcare Workers
(f) Designated First Aid Responders
(g) Custodial Workers

(2) In addition, OSHA requires a listing of job classifications in which some employees may have occupational exposure. Since not all the employees in these categories would be expected to incur exposure to blood or other potentially infectious materials, tasks or procedures that would cause these employees to have occupational exposure are also required to be listed. This listing is as follows:

(a) Designated backup first aid responders if:
   1. Containment of bleeding or bandaging is required
   2. Carrying and transporting victims
   3. Performing CPR, specifically mouth-to-mouth resuscitation
(b) Clerical personnel in medical facilities if:
   1. Assisting with specimen transport
   2. Restraining victims of trauma or hemorrhage
(c) Lifeguards if:
   1. Providing first aid
2. Providing mouth-to-mouth resuscitation

3. OSHA further requires a delineation of what contaminates shall constitute a risk to employees under this standard.

4. OSHA mandates that the principle of “Universal Precautions” shall be taught and adhered to. At this installation all personnel and visitors shall be assumed to be infected with bloodborne pathogens. Their tissues, blood, and body secretions shall be managed as though infectious to their handlers.

5. OSHA mandates that the exposure control plan herein set forth be reviewed and updated at a minimum of annually.

b. Engineering control against BBP exposure.

(1) Work Area Restrictions. In areas where there is a reasonable likelihood of exposure to bloodborne pathogen infectious materials, employees are not to eat, drink, apply cosmetics or topical medication, smoke or handle contact lenses. Food and beverages are not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops or bench tops where blood or other potentially infectious materials are intermittently or permanently present.

(2) Controls regarding contaminated materials are:

(a) Broken glass shall never be handled. Removal by instruments is mandatory (vacuuming, sweeping).

(b) Contaminated needles and other contaminated sharps shall never be intentionally bent, removed by hand, sheared or purposefully broken. Recapping is allowed only for local anesthetic administration during surgery and must be done with a one handed technique. Vacutainers and needles may be removed only using automated one-hand systems.

(c) All contaminated sharps shall be discarded immediately in puncture resistant biohazard containers designed for this purpose.

(d) All contaminated non-sharp materials and disposable personal protective equipment shall be discarded immediately in biohazard bags or cartons designed for this purpose.

(e) BBP bio hazardous waste shall be isolated to the biohazard depot room at McAfee US Army Health Clinic and processed as regulated waste.

(f) Medical specimens requiring transport to William Beaumont Army Medical Center (WBAMC) shall be sequestered in designated crash-resistant transport boxes designed expressly for this purpose. Transport personnel shall not open these boxes enroute for any purpose and shall be specifically instructed both verbally and in writing.

(g) Contaminated equipment. Equipment which has become contaminated with blood or other potentially infectious materials shall be examined prior to servicing and shipping and shall be decontaminated, as necessary, unless the decontamination of the equipment is not feasible, in which case it must be biohazard labeled for transport. Appropriate protective measures shall be taken by personnel decontaminating potentially infectious equipment.

*This document supersedes WSMR 385-18 RAR 02 Feb 12
(h) Contaminated containment systems: Any biohazard waste container which has evidence of external contamination or loss of container integrity will be placed in a second containment device which is sealable, leak proof, and properly biohazard labeled.

(3) Personal Protective Equipment:

(a) Personal protective equipment shall be chosen based on the anticipated method of exposure to infected materials. The protective equipment shall be considered appropriate only if it does not permit blood or other potentially infectious material to pass through or reach the employee’s clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time for which the protective equipment will be used.

(b) All personal protective equipment used at this installation shall be provided without cost to the employee. It will be provided in the following manner:

1. Hand contact with specimen/patient - Mandatory latex gloves, Alternate Hypoallergenic gloves, firefighter gloves, impervious gloves.

2. Potential or spray/aerosol - Face shield or mask and goggles. Alternate - Safety glasses and side shield and mask.


(c) Use of personal protective equipment is mandatory during operations designated as posing BBP exposure risk. Employees intolerant of BBP shall be accommodated if possible (i.e., hypoallergenic gloves for employees with dermatitis). Those employees who cannot be accommodated shall be reassigned or redetailed.

(4) Decontamination:

(a) Hand-washing requirements: OSHA requires that hand-washing facilities be readily accessible should potential exposure occur. Where fixed hand-washing facilities are not available antiseptic towelettes shall be provided by the installation for use in decontamination. This is meant to supplement and not replace the requirement for hand-washing. Before decontamination is completed, hand-washing shall be performed using fixed or portable hand-washing stations. Such stations are mandatory in certain sites including medical facility exam rooms, medical laboratories, bathrooms and firehouses.

(b) Contaminated Personal Protective Equipment (PPE). All garments, which are penetrated by blood, shall be removed immediately or as soon as possible within the limits of property and safety. All PPE shall be removed prior to leaving the work area or scene. All contaminated garments shall be isolated. Those not subject to decontamination shall be placed in biohazard waste bags. Disposable gloves shall be discarded only in biohazard plastic bags. Recyclable laundry shall be isolated to biohazard (red) bags and processed separately from other workplace laundry. This will be done by contractors informed of the biohazard concern. At the workplace, laundry bags shall be opened only to enter laundry.
(c) Contaminated recyclable equipment. All contaminated (BBP) recyclable equipment shall be decontaminated prior to reuse. Work surfaces shall be decontaminated after completion of procedures or as soon as possible after any spill of blood or other potentially infectious material. Equipment requiring servicing shall be decontaminated prior to transport if possible. Disposable PPE shall not be cleaned or recycled.

(d) Decontamination agents. Decontamination shall utilize only bleaches and EPA registered germicides. Unless contraindicated by manufacturer recommendations, household bleach (sodium hypochlorite) 1:10 dilution or hydrogen peroxide 1:10 dilution may be utilized. LPH and other industrial strength germicides may be substituted.

c. Hepatitis B vaccine prophylaxis:

(1) All employees who have been identified as having exposure to blood or other potentially infectious materials in their work environment shall be offered the Hepatitis B vaccine, at no cost to the employee. The vaccine shall be offered within 10 working days of assignment to hazardous operations. Vaccination is unnecessary if the employee has been previously immunized or if they have immunologic evidence of adequate protection.

(2) Refusal to accept vaccination is allowed provided the employee signs the written declination statement. Refusal to submit to vaccination is a reversible decision, which will not abridge the offer to vaccine, should the employee reconsider.

(3) Vaccination shall be offered at McAfee US Army Health Clinic during day shift duty hours. At the discretion of the Installation Medical Advisor, special clinics will be arranged if mission requirements and needs so mandate, at the discretion of the Installation Medical Advisor.

(4) Vaccination shall be according to United States Public Health Service (USPHS) protocol. Failure to complete the vaccine series on schedule will require bloodborne pathogen post-exposure evaluation and follow-up.

d. Bloodborne pathogen post-exposure evaluation and follow-up:

(1) Referrals. Any employee suspected of having physical contact with infectious sources shall be referred immediately to McAfee US Army Health Clinic for case evaluation and management. The only delay justified is for initial washing of the contaminated body area. Personnel contaminated while working in worksites closer to other medical treatment facilities shall utilize those closer facilities. Contamination of PPE in the absence of skin or mucous membrane exposure does not necessitate evaluation or medical referral.

(2) First aid. Whether provided by the organization or the medical treatment facility, the initial management of body exposure to bloodborne pathogen contamination shall first involve cleaning of the affected body part. Skin decontamination should be managed by gentle washing and lavaging of the affected area with rinsing for no less than 15 minutes. Scrubbing should be avoided. Eye contamination should mandate lavage with clear water without additives or soaps. Mucous membrane contamination (mouth, inner nose) should be managed with lavage and gargles. Hydrogen peroxide diluted 1:1 with water is an acceptable mouthwash decontaminate for this procedure. The most
critical decontamination agent is large volume water rinse. Where water is scarce, prepackaged towelettes should be used as a bridge for skin decontamination, until washing can be accomplished.

(3) Professional medical management of contamination incidents. After first aid measures to decontaminate the employee have concluded, the medical personnel shall attempt to define the contagion risk for that employee. The employee shall be offered baseline serologic (blood) testing for bloodborne pathogens including Hepatitis and HIV. Whenever allowed by law and consent of the “donor”, the employee will be tested for Hepatitis and HIV. The victim shall be offered Hepatitis prophylaxis vaccination or booster vaccination and immune globulin prophylaxis if their immune status suggests inadequate antibody capacity. With the employee’s consent infectious disease specialty consultation shall be arranged for each incident. Serial surveillance of the victim’s blood for evidence of a complicating infection shall be provided. All incidents shall be reported to the Department of Labor using the CA1 format. All incidents must also be reported to the Installation Safety Office. All cases shall be managed as a work illness or injury case and no charge for services, medications or referrals shall be borne by the victim.

(4) Incident evaluation and secondary prevention measures. Each exposure incident shall be evaluated by the White Sands Missile Range Safety Division to identify causality and to identify conditions amenable to corrective action. Case review shall include confidential deliberation by the installation workmen’s compensation subcommittee. Unresolved remediable causes of employees risk shall be referred to the SOHAC.

(5) Employee counseling. Each exposed employee shall be individually counseled by McAfee US Army Health Clinic (and if necessary, William Beaumont Army Medical Board infectious disease) physicians regarding the disease concerns raised by their exposure incident. Secondary preventive measures shall be tailored to the circumstances of the incident and investigation.

e. Employee training:

(1) The curriculum for training BBP risk employees shall include the following information:

(a) OSHA standard 29 CFR 1910.1030 with specific notation of where copies can be easily accessed.

(b) Epidemiology and symptomatology of bloodborne diseases discussed in lay terms.

(c) Modes of transmission of bloodborne pathogens including procedures which might increase the risk of such exposure.

(d) The exposure control plan, its implementation and specific notation of how a copy can be easily accessed.

e) The specific control measures available to eliminate exposure to bloodborne pathogens.
(f) Personal protective equipment available specific to the operations in which the trainee works including its selection, proper use, replacement, and disposal.

(g) First aid measures for the acute exposure.

(h) Signs and labels used to designate BBP hazard risks with emphasis on the significance of packages so labeled and the proper packaging and labeling of materials believed to be contaminated with bloodborne pathogens.

(i) The Hepatitis B vaccination process, risks, and benefits, including specific notation of the consent requirement, the free nature of the service and the reversibility of any declination by the employee.

(2) Training shall be provided to employees within 10 days of assignment to work in a potential BBP hazard operation and to include annual training.

f. Record Keeping.

(1) Medical records shall be kept in the occupational health medical folders of each individual.

(2) Training records shall be maintained by each Directorate and upon inspection the ISO, may request to view records. Training records shall be maintained for a minimum of 3 years and will include:

(a) Certification of employee attendance at meeting.

(b) Course outline.

(c) Trainer's credentials relative to the subject.

(d) Dates of training.
CHAPTER 21- CONTROL OF POTENTIAL HAZARDS TO HEALTH FROM IONIZING AND NONIONIZING RADIATION

21-1. GENERAL

   a. This chapter establishes policies, procedures, and functions for radiation safety. It applies to all WSMR elements procuring, receiving, storing, shipping, using, transporting, maintaining, or disposing of ionizing and nonionizing radiation producing materials and/or equipment.

   (1) Nonionizing radiation includes laser radiation, high intensity light, and radio frequency radiation.

   (2) Ionizing radiation refers to radioactive material and ionizing radiation-producing equipment.

   b. This regulation does not apply to the use of radiation sources for medical or dental purposes.

   c. Nuclear Regulatory Commission (NRC) regulations and licenses are mandatory requirements for the use of NRC-licensed materials. An Army radiation authorization (ARA) is required for not-operationally-ready maintenance, naturally occurring or accelerated produced radioactive material (NARM), and Department of Energy (DOE) materials.

   d. WSMR Pam 385-24 contains technical requirements for developing management and control processes for operations involving sources of radiation and its implementation is mandatory.

21-2. POLICY.

   a. To disseminate Command policies and delineate responsibilities regarding the control of potential health hazards from ionizing and nonionizing radiation operations at White Sands Missile Range and to ensure occupational exposures to ionizing radiation are maintained as low as reasonably achievable (ALARA).

   b. To establish standards and furnish technical guidance to minimize and/or avoid health and safety hazards resulting from ionizing and non-ionizing radiation operations.

   c. To provide procedures for the control of potential health hazards to personnel resulting from an exposure to ionizing and nonionizing radiation.

   d. To specify personnel dosimeter monitoring criteria, personnel monitoring procedures, and medical surveillance procedures for personnel who are occupationally exposed to ionizing radiation.

   e. Implement the White Sands Missile Range Radiation Safety Program (RSP).

21-3. SCOPE: Applicable to all Department of Defense (DOD) organizations, other governmental agencies, civilian contractors and visitors, whether tenant or transient, using, operating and/or possessing any device, or material capable of producing potentially hazardous ionizing radiation on or over White Sands Missile Range owned or
leased land. Range sponsors of contractors and visitors are responsible to ensure contractor's compliance with this regulation.

21-4. RESPONSIBILITIES. Organizational responsibilities are in WSMR Pam 385-24.

21-5. ADMINISTRATION AND PROCEDURES. Administration and procedures are in WSMR Pam 385-24.
CHAPTER 22- ERGONOMICS PROGRAM

22-1. RESPONSIBILITIES:

a. The Medical Commander shall:
   (1) Coordinate with Installation Safety Office (ISO) and update this program document as required.
   (2) Provide advice regarding the appropriate personnel to serve on the White Sands Missile Range Ergonomics Team.
   (3) Develop and maintain a written health care management plan/protocol for the early recognition, evaluation, treatment, and follow-up of Work-Related Musculoskeletal Disorders (WMDs).
   (4) Provide a health care representative to serve as the WSMR Ergonomics Team.
   (5) Assist in identification of modified or restricted-duty jobs and make specific recommendations to CPAC accordingly.
   (6) Appoint an Ergonomics Subcommittee Chairperson (Installation Ergonomics Officer) in accordance with DA PAM 40-21, Ergonomics Program.

b. The Chief Industrial Hygiene Officer, shall:
   (1) Manage the Industrial Hygienist aspects of the ergonomics program.
   (2) Designate an Industrial Hygienist to serve on the White Sands Missile Range Ergonomics Team.
   (3) Verify the designee has 40 hours of formal ergonomics training.
   (4) Document workplace ergonomic risk factors during routine work site evaluations.
   (5) Provide technical assistance to resolve issues from ergonomic assessments and problems.
   (6) Provide ergonomic training and education in reference to the Industrial Hygiene.
   (7) Coordinate with the medical staff and ISO to identify potential WMDs and ergonomic changes in respective work places.

c. The Director, ISO shall:
   (1) Appoint a safety professional as a member of the Installation’s Ergonomic Subcommittee. Verify the appointed individual has or will have 40 hours of formal ergonomics training.
   (2) Appoint a safety professional(s) to perform/assist in ergonomic evaluations and problem solving efforts.
d. The Installation Ergonomics Officer shall:

1. Lead the White Sands Missile Range Ergonomics Subcommittee, providing an interface between the team and the Workers' Compensation Committee, the Safety and Occupational Health Advisory Council, and other installation organizations.

2. Oversee, manage, or perform the worksite ergonomic analyses.

3. Provide biannual review and analysis reports concerning ergonomics to White Sands Missile Range leadership during the Safety and Occupational Health Advisory Council meetings.

4. Serve as the focal point for the safety/occupational health review and approval of specialized Automated Data Processing (ADP) and other equipment reportedly designed to alleviate ergonomic problems.

5. Evaluate and recommend appropriate ergonomic training/education for White Sands Missile Range personnel.

6. Develop, maintain, and obtain approval of the White Sands Missile Range Ergonomics Action Plan. The action plan will reflect specific actions, action officers, and milestones associated with the accomplishment of the various elements of the ergonomics program, to include the following:

   a. Program objectives.

   b. Program interfaces with existing programs, such as the wellness/fitness program, medical surveillance program, and occupational health programs.

   c. Workplace Analyses.

   d. Hazard Prevention and Control.

   e. Health Care Management.

   f. Education and Training.

   g. Program Evaluation and Review.

   h. Material Acquisition.

    e. The Ergonomics Subcommittee will be led by the Installation Ergonomics Officer. The team will be established in accordance with DA PAM 40-21, Ergonomics Program Core membership includes directorate representatives, medical personnel, industrial hygienist, safety professionals, key military chain of command representative, union representative, and human recourse representative. Support and advisory membership includes representatives from: Contracting Support, Public Works, Logistics and Information Management.

    f. The ergonomics team shall:
WSMRR 385-18

(1) Gather and evaluate appropriate injury, accident, and complaint data on worksites and work processes.

(2) Identify existing and potential WMDs.

(3) Conduct worksite evaluations and recommend correct/remedial actions for ergonomic hazards.

(4) Recommend priorities for the abatement of identified WMDs.

(5) Support the Installation Ergonomics Officer.

(6) Evaluate the effectiveness of the corrective actions and document the results.

(7) Provide/recommend specialized work training.

(8) Work with medical personnel in the identification of potential WMDs and advise medical personnel on ergonomic changes in the workplace.

(9) Assist the IEO in the development and maintenance of the WSMR Ergonomics Action Plan.
CHAPTER 23- MOTORCYCLES, ALL TERRAIN, AND OFF-ROAD VEHICLE SAFETY

23-1. MOTORCYCLES, ALL TERRAIN, AND OFF-ROAD VEHICLE SAFETY:

   a. Soldiers:

      (1) Are responsible for establishing a Motorcycle Safety Packet which will be maintained within the unit. Motorcycle Safety Packet will include actual or certified photocopies of the following:

         (a) Driver’s license with motorcycle endorsement.

         (b) Appropriate Motorcycle Safety Foundation (MSF) or Specialty Vehicle Institute of America (SVIA) motorcycle safety course. Also include advanced motorcycle safety certification if completed.

         (c) Proof of insurance IAW WSMRR 190-3.

         (d) Proof of registration IAW WSMRR 190-3.

   b. Commanders:

      (1) Are responsible for ensuring that each Soldier upon arrival has registration that is compliant with WSMRR 190-3.

      (2) Will ensure that each Soldier has established a Motorcycle Safety Packet containing the items highlighted in section 23-1a (1) of this regulation.

      (3) Are responsible for retaining the Motorcycle Safety Packets on file within the unit. These packets are inspectable items by way of the Installation Safety office and are subject to inspection at any time.

      (4) Are responsible for ensuring that any Soldier that requires motorcycle training is scheduled accordingly via the Installation Safety office.

      (5) Commanders are responsible for the establishment of the Motorcycle Mentorship Program within the unit.

      (6) Will ensure that each Soldier comprehends the responsibilities of operating a motorcycle on White Sands and retains a comprehensive understanding of WSMRR 90-3.

      (7) Commanders will ensure that all individuals covered by this regulation wear the following PPE while operating MCs, off-road vehicles, and ATVs on the installation and all Soldiers at any time on or off Army installations.

      (8) Motorcycle and all-terrain vehicle rider protection:

         (a) Helmets.

            1. For personnel riding MCs and ATVs in the United States, helmets will be certified to meet DOT Safety Standard No. 218, United Nations Economic Commission for Europe Standard 22–05, British Standard 6658, or Snell Standard M2005 according to DODI 6055.04, 20 April 2009, Change 2, references (w), (x), (y), and (z).
2. For personnel riding MCs and ATVs outside the United States, helmets must meet the HN standards. In those instances where the HN has no standard, helmets must, at a minimum, meet the DOT Federal motor vehicle safety standard.

3. All helmets will be properly fastened under the chin.

(b) Eye protection. Eye protection must be designed to meet or exceed ANSI Z87.1, reference (z) for impact and shatter resistance (includes goggles, wraparound glasses, or a full-face shield (properly attached to a helmet). A windshield or fairing does not constitute eye protection.

(c) Foot protection. Foot protection includes sturdy over-the-ankle footwear that affords protection for the feet and ankles (durable leather or ballistic-type cloth athletic shoes that cover the ankles may be worn).

(d) Protective clothing. Protective clothing includes long-sleeved shirt or jacket, long trousers, and full-fingered gloves or mittens made from leather or other abrasion-resistant material. MC jackets and pants constructed of abrasion resistant materials (such as leather, Kevlar®, or Cordura®) and containing impact-absorbing padding are strongly encouraged. Riders are encouraged to select PPE that incorporates fluorescent colors and retro-reflective material.

(e) Tactical motorcycle and Government-owned tactical all-terrain vehicle rider protection. The PPE for Government- owned MC and ATV operators during off-road operations should also include knee and shin guards and padded gloves.

(f) Off-road operations. During off-road operations, operators and riders must use additional PPE, such as knee and shin guards and padded full-fingered gloves.
CHAPTER 24- CHEMICAL AND BIOLOGICAL STIMULANT OPERATIONS LICENSING

24-1. UNSAFE OPERATIONS: The following personnel have the authority to stop unsafe operations.

   b. Any supervisor within their area of operations.
   c. Operator following specific Standing Operating Procedure (SOP) instructions.
   d. Test conductor for operations.
   e. Anyone that observes an unsafe operation.

24-2. SAFETY:

   a. All operations involving biological and chemical stimulant operations shall comply with the requirements of this section.
   b. No operation involving chemical and biological stimulant operations will be conducted at White Sands Missile Range without a White Sands Missile Range Command approved SOP and an approved license to conduct stimulant test operations at White Sands Missile Range. All activities conducting operations involving chemical and biological stimulants must submit the following information to the ISO for inclusion in the WSMR overall site license application:
      (1) A list of each stimulant to be used, in what form, and under what concentration limits.
      (2) Health hazard/toxicity data for the stimulant(s) to be used, addressing expected concentration levels and potential exposure duration. Include information describing where the health hazard information was obtained and when the information was last reviewed and updated.
      (3) For testing involving outdoor dissemination of stimulants, describe the procedures to be used to ensure adequacy of meteorological conditions and prediction of stimulant dispersion. How will real-time conditions be monitored and who will give on-site permission to disseminate stimulants? How will control of all personnel with potential for exposure be maintained and informed of any changing test conditions?
      (4) Describe the training that all personnel involved in stimulant operations already possess or will receive. How will training records be maintained?
      (5) How will control of tenant organization or test/training customer operations be maintained?
   c. All chemical and biological stimulant operations operating site licenses previously issued will be included as an appendix to the respective SOP governing the chemical and biological stimulant operation or test. Concurrent review of both documents can be performed when the SOP is submitted for renewal. The following
control measures will be in place and strictly adhered to during the course of testing and any deviation from these controls will require a waiver approved by the Commander, ATEC, prior to commencing testing:

(1) Current approved Standing Operating Procedures detailing all protective measures, such as personal protective equipment (PPE) requirements, training required to conduct tests in a safe manner, requirement to conduct a daily safety briefing prior to operations, and identification of responsible individuals or offices who ensure safe conduct of operations.

(2) A current and comprehensive hazard analysis which identifies all risks involved with conduct of these tests, to include proper handling and storage of stimulant material, with adequate control measures to either mitigate or control the hazards. This hazard analysis will become part of the training package for these tests and part of the Standing Operating Procedures.

(3) Safety Data Sheets (SDS's) outlining the hazards and controls for stimulants will be readily available. These SDS's will be part of the training package.

(4) A pre-operational survey will be conducted in order to familiarize all personnel involved with steps in the test process by conducting a dry run of the test operations. Key personnel involved in the tests will be required to attend. This will serve to resolve any issues with test conduct and further define control measures in place.

(5) Ensure current weather predictions are provided by the meteorologist at the beginning of each day, and cloud tracking optics and field ground samplers are in place to monitor dispersion of the cloud and stimulant material.

(6) During entry into the remains of the structure after the detonation, ensure all required PPE is worn and that monitoring equipment is in place to detect any potential exposure to hazardous cloud or other hazardous material.

(7) Ensure test-related personnel who are not WSMR employees read and agree to, in writing, the stipulations of this license and all other governing SOPs and regulations. Any personnel not complying with the stipulations of the license will not conduct testing on WSMR.

(8) Prior to authorizing organizations to conduct these operations at WSMR, the SOP must be signed verifying written acknowledgement that the organizations understand and will comply with the provisions of the license.

(9) The license will be required to be amended when operations deviate significantly from SOPs or additional stimulants are being used.
CHAPTER 25- CONTRACTING SAFETY

25-1. GENERAL

   a. Safety will be integrated into the contracting process at WSMR in accordance with the requirements of AR 385-10, chapter 4.

   b. WSMR personnel when developing a Statement of Work (SOW) will consider safety and Occupational Health (OH) for all contracts or sub-contracts and coordinate proposed safety requirements with the organizational safety office. Contracting Officers (KO's) will ensure all procurement packages are coordinated with the Safety Office.

   c. Appropriate federal acquisition regulation (FAR) safety clauses (to include FAR Clause 52.236-13) will be included, as necessary, in solicitations and contracts. Special safety requirements for explosive, chemical, biological, and radiological facilities will be in accordance with pertinent DA safety guidelines.

   d. Contract activities will be conducted in a safe and healthful manner that minimizes accidents as well as impacts on Army operations and members of the public. Contractors must comply with applicable Federal, State, and local codes and standards, including safety and OH requirements, as well as any additional specific requirements invoked by the contract.

   e. Army safety and OH professionals will be trained in contracting principles and procedures and contract safety requirements and processes (see DA Pam 385-10).

   f. In general, the requirements in this regulation do not apply to contractor personnel except as listed. Army standards, such as this regulation, should not be referenced as a contract requirement unless the contractor is hired to perform safety and OH services for Army employees.

   g. In accordance with DODI 6055.1, Army safety and health responsibilities in contractor plants and contractor operations on Army property are generally limited to helping to ensure the safety of government-owned equipment, protection of the production base, protection of government property and on-site Army personnel from accidental losses, and the protection of the public. Contractors are responsible for the safety and health of their employees and protection of the public at contractor plants and work sites.

   h. Clauses outlining contractor safety requirements and responsibilities will be included in solicitations and contracts as prescribed by the FAR, the Defense Federal Acquisition Regulation Supplement (DFARS), and the Engineer Federal Acquisition Regulation Supplement (EFARS). See DA Pam 385-10, chapter 4.

   i. In addition to clauses as required by FAR, DFARS, and EFARS, organizations will develop performance work statements and contract instructions and conditions that outline contractor safety requirements and responsibilities based on a risk assessment of the work to be performed and organization unique requirements. Contracting officer representatives (COR), requiring activity, or Defense Contract Management Agency, in consultation with local safety and OH SMEs, will develop additional and necessary clauses to mitigate risk. Note that the only means for imposing safety and OH
requirements on a contractor or subcontractor is by incorporating the requirement as a contractual requirement (for example, a contract clause, special clause, statement of work, guide specification, or contract modification).

j. Under the Occupational Safety and Health (OSH) Act, all employers must comply with Occupational Safety and Health Administration (OSHA) standards and must exercise reasonable diligence to determine whether violations of those standards exist. On multiemployer work sites, more than one employer may be considered responsible for a hazardous condition that violates an OSHA standard.

k. Contracting officers will consult with safety and OH SMEs to ensure that clauses for safety are included in solicitations and contracts as appropriate and necessary. Safety and OH SMEs will assist CORs with monitoring contract safety and OH compliance.

l. When contractor mishap reporting is a contract requirement, such mishaps will be reported as outlined in Chapter 7 of this document and DA Pam 385-40. In addition, the following will be reported:

1. Injury or occupational illness to on-duty contractors.
2. Damage to government-furnished material (GFM), government-furnished parts (GFP), or government-furnished equipment (GFE) provided to a contractor.
3. Contractor accidents involving Army property and personnel.

m. The COR shall inform the local OSH office of instances where the contractor has been notified to take immediate action to correct serious or imminent danger conditions.

n. Army oversight of contractor operations is restricted to the following instances:

1. Where Army has statutory authority for oversight, such as the manufacture of ammunition. Where it is in the best interest of the Army. (Army oversight has historically contributed to lower accident rates among certain contractor employees, on-time delivery of products and services (increased readiness), and ultimate savings to the Government).

   (a) Army contractors operating from Army or privately owned facilities, located on or off Army installations, are "employers" as defined in 29 United States Code (USC) 651 and those that follow and are subject to enforcement authority by Federal and State safety and health officials as stated in the following:

      1. Federal and State OSHA officials must be granted access to DOD contractor workplaces on DOD installations without delay and at reasonable times.

      2. 29 USC 651 does not authorize the Secretary of Labor to assert authority over working conditions for which another Federal agency or any State agency acting under 42 USC exercises statutory authority to prescribe or enforce standards or regulations affecting OSH.

      3. Army contractors have the responsibility of responding to any citations issued by Federal or State OSHA officials for violations of applicable standards.

      4. Full information regarding citations issued to Army contractors for violations of Federal or State OSHA standards involving Army-furnished equipment, facilities, or other

*This document supersedes WSMR 385-18 RAR 02 Feb 12
property shall be referred to all appropriate personnel, to include COR and contracting officer, for appropriate action.

  o. Inspection of contract activities.

    (1) The contractor is responsible directly to Federal or State OSHA for the safety and health of contractors’ employees.

    (2) The Army shall conduct safety and health evaluations of all workplaces and operations where Army personnel are regularly employed. Evaluations shall include determining if contractor operations jeopardize the safety and health of Army personnel and endanger Army property.

    (3) Army safety and OH programs will not perform any measurements; that is, perform worker exposure monitoring of contractor worker exposure to Army equipment, unless specifically provided for in contracts between the Government and the contractor.

25-2. PURPOSE: To inform Contractors operating on White Sands Missile Range of the requirements, regulations, and responsibilities. First and foremost all Contractors must have a designated Project Sponsor/COR when operating on White Sands Missile Range. These requirements and responsibilities have been developed due to past accidents, incidents, and after action reviews and the processes of corrective actions that were implemented.

25-3. RESPONSIBILITIES:

  a. Program Sponsor:

    (1) Shall assure the Contractor has a Specific Safety Plan/s, for planned project, and provide a copy to the Installation Safety Office for approval before start of operation.

    (2) Attend a Pre-Project/Operation Meeting.

    (3) Appoint a COR with oversight responsibilities to include safety, health, environmental required training certifications and documentation and required permits.

    (4) Assure that all accidents, incidents, fatalities, or exposures are reported to the Installation Safety Office within 12 hours (678-1211) of incident. Assure all Class A accidents are reported immediately to ISO.

    (5) Assure UXO and Wildlife Briefings are provided to all employees before operating on White Sands Missile Range. Videos providing the current UXO Range Hazards Briefing (http://www.wsmr.army.mil/Pages/Home.aspx) and an Oryx alert video (http://www.wsmr.army.mil/gar/ISO/Safety/Pages/RSB.aspx) are available on the Safety Office link located on the White Sands Missile Range Home Page.

    (6) Assure that accident sites are preserved and secured after an accident or incident until released by the Installation Safety Office.

    (7) Attend an After Action Review (AAR) board meeting when required.

  b. Contracting Officers Representative (COR) Responsibilities:

    (1) Provide safety oversight for the Contractor/Sub-contractors with support from Project Sponsor and Installation Safety Office. Contracting officers will consult with
(Safety and Occupational Health) SOH subject matter experts to ensure that clauses for safety are included in solicitations and contracts as appropriate and necessary. SOH subject matter experts will assist CORs with monitoring contract SOH compliance.

(2) Attend a Collateral Duty Safety Officer’s course (available at https://safety.army.mil/training/ONLINETRAINING/tabid/1210/Default.aspx) or equivalent training.

(3) Conduct safety inspection of contractor work site to assure safety compliance.

(4) Assure that all warning lights, warning signs, barricades and smoking policies are not violated by Contractor.

(5) Assure that all accidents/incidents are reported to the Installation Safety Office within 12 hours of incident (678-1211). Assure all Class A accidents are reported immediately to ISO.

c. Installation Safety Office (ISO):

(1) Provide safety support to the COR.

(2) Conduct an After Action Review (AAR) after selected accidents or incidents.

(3) Report all fatalities to OSHA and report certain categories of exposure to employees or general public.

(4) Assure all required Safety regulations are followed such as but not limited to: AR 385-10, OSHA 29 CFR 1910 and OSHA 29 CFR 1926.

(5) Review and approve Contractor Safety Program before start of project.

(6) Conduct periodic safety site visits of long term projects in support of the COR.
CHAPTER 26- ARMY MOTOR VEHICLE AND GOVERNMENT OPERATED VEHICLE ACCIDENT PREVENTION PROGRAM

26-1. PURPOSE: To provide guidance and standards relating to the review of collisions or accidents involving motor vehicles owned or leased by the Department of the Army or other agencies of the United States Government, when such Army Motor Vehicle (AMV) accidents and Government Operated Vehicle (GOV) accidents occur on the White Sands Missile Range (WSMR), New Mexico, or occur off-post but involve an AMV or GOV assigned to WSMR. The objectives of the Army Motor Vehicle Accident Prevention Program are to:

a. Enable the Senior Commander (SC), WSMR, to manage all aspects of the WSMR AMV/GOV Accident Prevention Program.

b. Minimize the potential for loss of life, personal injury, and destruction of property through leader engagement.

26-2. POLICY:

a. AMV/GOV accidents shall be officially reported as soon as possible and by the quickest means reasonably available, to the Directorate of Emergency Services (DES), Law Enforcement Division, and Emergency Dispatch Center by calling 575-678-1234.

b. AMV/GOV involved in an accident will be reported without delay to the supervisor of the driver.

c. Actions for a Single Accident (DES determined driver at fault):

(1) Prior to the driver operating an AMV/GOV after an accident the supervisor will review with the driver all policies and procedures relating to use of AMVs/GOVs.

(2) Supervisor will require the driver to complete the Accident Avoidance Course within 30 days. This course is located at the Army Learning Management System at: https://www.lms.army.mil

(3) An AMV/GOV accident resulting in more than $5,000 in damages or lost work days will be briefed to the SC during a recurring WSMR Leadership Team Staff meeting by the driver’s Commander/Director at a location and time prescribed by the SC.

(4) These actions are not intended to be a replacement or substitute for any disciplinary action or liability under AR 735-5, or any civil or criminal action taken under the laws of the United States.

(5) Actions for two (2) or more Accidents within 3 years (DES determined driver at fault):

(a) Supervisor and section chief review, with the driver, all policies and procedures relating to use of AMV/GOV. Supervisor, section chief and driver complete defensive driving course together before driver may use any AMVs, or any government paid rental vehicles on or off the installation.

(b) Two (2) or more AMV/GOV accidents resulting in more than $5,000 in damages or lost work days will be briefed to the SC during a recurring WSMR Leadership Team Staff meeting.
Team Staff meeting by the driver’s Commander/Director at a location and time prescribed by the SC.

   (c) Driver must request approval from their Commander or Director to continue driving.

   (d) These actions are not intended to be a replacement or substitute for any disciplinary action or liability under AR 735-5, or any civil or criminal action taken under the laws of the United States.

26-3. RESPONSIBILITIES:

   a. The Senior Commander, WSMR will:

      (1) Establish a WSMR AMV/GOV Accident Prevention Program.

      (2) Chair briefings for AMV/GOV accidents resulting in more than $5,000 in damages or lost work days.

   b. The Installation Safety Director (ISD) will:

      (1) Provide for review and monitoring of the overall WSMR AMV/GOV Accident Prevention Program for the SC.

      (2) Provide Command emphasis to the WSMR AMV/GOV Accident Prevention Program.

      (3) Manage and implement the WSMR AMV/GOV Accident Prevention Program.

      (4) Ensure the WSMR SC and staffs are informed on WSMR AMV/GOV Accident Prevention Program issues.

   c. The Commander/Director, White Sands Test Center, will:

      (1) Review Test Center AMV/GOV accident packages and forward thru the ISD to the SC.

      (2) Brief all AMV/GOV accidents resulting in more than $5,000 in damages or lost workdays to the SC within 30 days of the accident at a location prescribed by the SC. Contact the ISD for scheduling at (575) 678-2305 or the Secretary of the General Staff (SGS) at (575) 678-5175.

   d. The Commander, U.S. Army Garrison WSMR, will:

      (1) Review all Garrison AMV/GOV accident packages and forward thru the ISD to the SC.

      (2) Brief all AMV/GOV accident resulting in more than $5,000 in damages or lost workdays to the SC within 30 days of the accident at a location prescribed by the SC. Contact the ISD for scheduling at (575) 678-2305 or the SGS at (575) 678-5175.

   e. WSMR Tenant Activities Directors will:

      (1) Review your AMV/GOV accident packages and forward thru the ISD to the SC.
(2) Brief all AMV/GOV accidents resulting in more than $5,000 in damages or lost workdays to the SC within 30 days of the accident at a location prescribed by the SC. Contact the ISD for scheduling at (575) 678-2305 or the SGS at (575) 678-5175.

f. The Drivers Immediate Supervisor will:

(1) Investigate the scene following the AMV/GOV accident to determine its root cause.

(2) Immediately following the accident, assemble a package containing the following; supervisor’s accident investigation report; description of the root cause, the employees written testimony, the official police accident report, and the supervisor’s statement of corrective action.

(3) The package will be submitted through the chain of command up to the commander / director level, and then to the ISD no later than ten (20) working days following the accident.

g. The Driver involved in an AMV/GOV will:

(1) Immediately report the accident to his/her supervisor, and to the DES Law Enforcement Division, Emergency Dispatch Center. Failure to report a traffic collision or accident in a timely manner, regardless of fault, may subject the employee to disciplinary action, and to criminal penalties.

(2) Submit a written report of the collision to the DES Law Enforcement Division.

(3) Provide a written signed and dated narrative account of the accident to his/her supervisor.

26-4. TRAINING:

a. Mandatory Training: All Team White Sands members permanently assigned to White Sands Missile Range who operate government vehicles as part of their duties shall be required to view the Driving on Unimproved Roads safety awareness video as an addition to the driver training outlined in AR 600-55.

b. The Installation Safety Office is the proponent for the Driving on Unimproved Roads safety awareness video. This online video is located on the Army Mandatory Training and Education Assessment System. For assistance or information contact the ISD at 678-2305.

(1) Those individuals who do not have an assigned computer or account should request computer support from within their organization.

(2) Compliance is tracked by your Common Access Card (CAC). Viewing this training video on someone else’s computer account does not meet the training requirement.

(3) Go to https://intranet.wsmr.army.mil/amteas/ to access this training material.

c. Initial Training: Initial training will be accomplished as a requirement for issuance of the U.S. Government Motor Vehicle Operator’s Identification Card 346 (OF 346).
(1) Provide the installations Government Licensing Office, building 1838, (575) 678-3344/5005, a copy of the training certificate for entry on the installations licensing database.

(2) Provide a copy to your organization's training coordinator.

d. Refresher Training: Refresher training will consist of viewing the "Driving on Unimproved Roads" safety awareness video and must be completed when your military driver's license (U.S. Government Motor Vehicle Operator's Identification Card 346) is renewed. Renewal is accomplished on the same date as the individual's State driver's license expires, or 5 years from issue date whichever is sooner.

(1) Provide the installations Government Licensing Office, building 1838, (575) 678-3344/5005, a copy of the training certificate for entry on the installations licensing database.

(2) Provide a copy to your organization's training coordinator.
CHAPTER 27- USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE) DURING HIGH HAZARD OR MANNED FIRING TRAINING, TEST AND EVALUATION

27-1. PURPOSE: To provide guidance and standards relating to the use of proper PPE during training, test and evaluations involving High Hazard or Manned Firing operations. The DA and ATEC requirements to develop a hazard specific Risk Assessment and Hazard Analysis is the primary tool the supervisor and employee use to identify proper PPE for the operation. The use of the Hazard Analysis process and procurement of the proper PPE provides the maximum protection for the WSMR workforce.

27-2. POLICY:

a. Always Be Safe: All testing, mission or training occurring on WSMR must be performed safely in order to be considered a successful outcome for the customer, WSMR and the Army. Any grievous injury, loss of life or damaged equipment is unacceptable. Safety must be at the forefront of all planning and execution events to ensure all risk mitigation measures have been correctly identified, and all safety requirements have been addressed. Everyone must put special emphasis on using proper PPE. Contact the Test Center Safety Office, 678-3921, for information or assistance.

b. Identify Risks: An integral part of planning involves reviewing the Safety Assessment Reports (SAR) or Plans of Instruction (POI) which identify and breakdown the hazards within the systems and associated with the test, mission or training event.

(1) Follow the Process: A thorough analysis must be conducted IAW with AR 385-10 (The Army Safety Program), DA Pam 385-30 (Mishap Risk Management) and ATEC R 385-1 (The ATEC Safety Program). This analysis, performed through management and employee evaluation of the process, identifies hazards and the proper mitigations of those hazards by employing correct engineering techniques, administrative controls, and/or PPE.

(2) Get Safety Plan Approved: Every test, mission or training event will include a Hazard Analysis as part of its Standing Operating Procedure (SOP). All SOPs, with completed Hazard Analysis, will be provided to the Installation Safety Office (60 days for new SOPs and 30 days for renewals) for review and concurrence prior to submission for Command approval.

(3) Use Proper PPE: Assessment of the proper PPE for Manned Firing will specifically address likely hazards such as flash, fire and blast. Each fielded weapon system identifies PPE requirements specific to that system. The use of TM 10-8400-201-23, which includes descriptions on specifications of the appropriate gear based on the assessed need, is required to determine PPE usage for Research, Development, Test and Evaluation activities, not otherwise specified. Required and mandated PPE will be procured locally through appropriate channels.

27-3. RESPONSIBILITIES:

a. The Senior Commander, WSMR will:

(1) Establish a WSMR PPE Policy.

*This document supersedes WSMR 385-18 RAR 02 Feb 12 102
(2) Approve High Hazard Training mission on WSMR. Submit High Hazard Test missions to HQ ATEC for approval.

b. The Installation Safety Director (ISD) will:

(1) Will review and provide concurrence for all SOPs and Hazard Analysis for Test Center tests and operations.

(2) Submit all SOPs for Command approval.

c. The Commander/Director, White Sands Test Center, will:

(1) Approve Medium Hazard SOPs for Test Center tests and operations.

(2) Ensure all Test Center Directors and Office Chiefs comply with the WSMR PPE policy.
Appendix A- References

Appendix B- DA FORM 4755, Employee Report of Alleged Unsafe or Unhealthful Working Conditions, DA FORM 4753, Notice of Unsafe or Unhealthful Working Conditions (For Posting)

Appendix C- Employee Safety and Health Training Requirements

Appendix D- Risk Management Steps

Appendix E- Job Hazard Analysis Sample

Appendix F- VPP Management Leadership and Employee Involvement

Appendix G- Hazard Communication Program, 01 July 15

Appendix H- Exam MFR, Occupational Health, McAfee Clinic Permit

Appendix I- Record of Injury

Appendix J- WSMR ACCIDENT INVESTIGATION FORM, 01 July 15

Appendix K- Hazard Analysis Form

Appendix L- WSMR Confined Space Entry Permit

Appendix M- Fall Protection Program

Appendix N- PPE Policy

Appendix O- Contracting Safety
Appendix A
REFERENCES

29 CFR 1903.11, Complaints by Employees
29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses
29 CFR 1910, Occupational Safety and Health Standards
29 CFR 1910.1030, Bloodborne Pathogens
29 CFR 1910.134, Respiratory Protection
29 CFR 1910.146, Permit Required Confined Spaces
29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout)
29 CFR 1910.252, Welding, Cutting, and Brazing
29 CFR 1926, Safety and Health Regulations for Construction
29 CFR 1926.3, Competent Person
AMC R 700-107, Conventional Ammunition Section.
ANSI Z358, American National Standard for Eyewashes
ANSI Z41, American National Standard for Personal Protection Protective Footwear
ANSI Z87, American National Standard for Occupational and Educational Eye and Face Protection Devices
ANSI Z88, American National Standard for Respiratory Protection
AR 11–34, The Army Respiratory Protection Program
AR 25-400-2, The Army Records Information Management System
AR 385–10, The Army Safety Program
AR 385–63, Range Safety
AR 40–5, Preventive Medicine
AR 50–5, Nuclear Surety
AR 50–6, Chemical Surety
AR 50–7, Army Reactor Program
AR 58–1, Management, Acquisition, and Use of Motor Vehicles
AR 600-55, The Army Driver and Operator Standardization Program
AR 600-8-22, Military Awards
AR 690–700, Civilian Personnel- General and Miscellaneous
ATEC Regulation 385-1, ATEC Safety Program
DA Pam 385–10, Army Safety Program
DA Pam 385–16, System Safety Management Guide
DA Pam 385–24, The Army Radiation Safety Program
DA Pam 385–26, Army Electrical Safety Program
DA Pam 385–30, Mishap Risk Management
DA Pam 385–40, Army Accident Investigations and Reporting
DA Pam 385–64, Ammunition and Explosives Safety Standards
DA Pam 385–69, Safety Standards for Microbiological and Biomedical Laboratories
DA Pam 385–90, Army Aviation Accident Prevention Program
DA Pam 40-21, Ergonomics Program
DA Pam 40-501, Hearing Conservation Program
DODI 6055.04, DOD Traffic Safety Program
DODI 6055.1, Safety and Occupational Health Program
DODI 6055.12, DOD Hearing Conservation Program
FAR 52.236-13, Accident Prevention
FM 21-305, Manual for Wheeled Vehicle Driver
FM 21-60, Visual Signals
MIL-STD-1474D, Design Criteria Noise Limits
TB 43-0142, Safety Inspection and Testing of Lifting Devices
TB 43-0151, Air and Other Gas Compressors Manual
TB 43-385-4, Safety Requirements for Maintenance of Electrical and Electronic Equipment
WSMR Safety Action Plan
Appendix B
EMPLOYEE REPORT OF
ALLEGED UNSAFE OR UNHEALTHFUL WORKING CONDITIONS
For use of this form, see AR 385-10; the proponent agency is Office of The Inspector General.

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the local Safety Office (Ref OSHA Poster on rights of employees and their representatives).

The undersigned (check one)
☐ Employee  ☐ Representative of employees  ☐ Other (Specify) __________________________
believes that a job safety or health hazard exists at the following place of employment __________________________

Does this hazard immediately threaten serious physical harm? ☐ Yes  ☐ No
If "yes" checked, immediately contact your supervisor or safety representative.

Name of official in charge __________________________ Telephone __________________________

Operation/Activity __________________________

Exact location of worksite __________________________

1. Kind of operation __________________________

2. Describe briefly the hazard which exists there including the appropriate number of employees exposed to or threatened by such hazard

   __________________________
   __________________________
   __________________________

3. List by number and/or name the particular occupational safety and health standard(s) which may have been violated, if known __________________________

4. (a) To your knowledge, has this hazard been the subject of any union/management grievance or have you (or anyone you know) otherwise called it to the attention of, or discussed it with the employer or any representative thereof? __________________________
   (b) If so, please give the results thereof, including any efforts by management to eliminate or reduce the severity of the hazard __________________________

5. Please indicate your desire:
   ☐ I do not want my name revealed to the official in charge.
   ☐ My name may be revealed to the official in charge.

WORK LOCATION __________________________ TELEPHONE NO. __________________________ DATE __________________________

TYPED OR PRINTED NAME OF EMPLOYEE OR EMPLOYEE REPRESENTATIVE __________________________ SIGNATURE __________________________
NOTICE NO. _____OF
UNSAFE OR UNHEALTHFUL WORKING CONDITION

(DO NOT REMOVE NOTICE UNTIL CONDITION IS ABATED)

For use of this form, see AR 385-10; the proponent agency is Office of The Inspector General.

<table>
<thead>
<tr>
<th>1. UNIT INSTALLATION</th>
<th>3. DATE OF INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. OFFICIAL IN CHARGE OF WORKPLACE</td>
<td>4. STANDARD VIOLATED</td>
</tr>
<tr>
<td>5. LOCATION OF VIOLATION</td>
<td></td>
</tr>
<tr>
<td>6. DESCRIPTION OF UNSAFE OR UNHEALTHFUL CONDITION</td>
<td></td>
</tr>
</tbody>
</table>

7. RECOMMENDED ABATEMENT PROCEDURES
   a. Interim

   b. Final: Abatement should be completed by

8. ADDITIONAL INFORMATION CONCERNING THIS VIOLATION CAN BE OBTAINED FROM

   ________________________________ TELEPHONE NO. __________________________
Appendix C
<table>
<thead>
<tr>
<th>Training standard</th>
<th>Frequency</th>
<th>Source of regulation</th>
<th>Training required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division Health and Safety Program</strong></td>
<td>Employee safety orientation</td>
<td>Federal OSHA general duty</td>
<td>Supervisor and employee safety responsibilities safety communication methods, hazard Id, inspection, EH&amp;S program.</td>
</tr>
<tr>
<td><strong>Emergency preparedness and fire prevention/evacuation</strong></td>
<td>Employee safety orientation/annually/</td>
<td>29 CFR 1910 38, 134, 151, 1200</td>
<td>Procedure to be followed in the event of emergencies, evacuation procedure, evacuation drill, overview of emergency action plan and fire prevention plan including fire hazards at the site.</td>
</tr>
<tr>
<td></td>
<td>Fire/tornado drill</td>
<td>156, 157, 165, 1200</td>
<td></td>
</tr>
<tr>
<td><strong>Hazard Communication</strong></td>
<td>Employee safety orientation/annually/refresher with product change or product addition or when employee understanding is questioned (NOTE: Some states require annual training)</td>
<td>29 CFR 1910.1200, 119, 134, 157, 120, Subpart Z</td>
<td>Substance ID and properties, PPE, spill prevention, and containment, health hazards, SDS, medical surveillance, overview of site HAZ-COM plan.</td>
</tr>
<tr>
<td><strong>Ergonomics (PROPOSED)</strong></td>
<td>Employee safety orientation/employee understanding is questioned, work site changes, job changes, equipment changes</td>
<td>Federal OSHA general duty clause AX 40-5, DA Pam 40-21</td>
<td>Causes and prevention of CTD workstation evaluation, documentation, medical surveillance requirements.</td>
</tr>
<tr>
<td><strong>Safe lifting</strong></td>
<td>Employee safety orientation/ changes in workplace, equipment/increase in injury rates</td>
<td>Federal OSHA General Duty Clause</td>
<td>Overview of back anatomy and physiology review of basic lifting techniques, application to workplace setting</td>
</tr>
<tr>
<td><strong>Workplace violence</strong></td>
<td>At time of hire unless employee understanding is questioned</td>
<td>Federal OSHA general duty clause</td>
<td>Causes/prevention of workplace violence, recognizing and avoiding potential deadly situation, conflict avoidance, response techniques, reporting requirements, company policy on workplace violence.</td>
</tr>
<tr>
<td><strong>Access to employee exposure and medical records</strong></td>
<td>Employee safety orientation/annually for employees exposed to toxic substances or harmful physical agents</td>
<td>29 CFR 1910.1020, 1200, 95, 134, Subpart Z</td>
<td>Existence, location, and availability of records, person responsible for maintaining and providing access to records.</td>
</tr>
<tr>
<td><strong>Specification for accident prevention signs and tags</strong></td>
<td>Employee safety orientation/employee understanding is questioned</td>
<td>29 CFR 1910.144, 145</td>
<td>Danger/caution signs and tags, special precautions when these are encountered.</td>
</tr>
<tr>
<td><strong>Employee alarm systems</strong></td>
<td>Employee safety orientation/assignment to a different area</td>
<td>29 CFR 1910.165, 38</td>
<td>Inform employee of preferred means of reporting emergencies and how system alarms function.</td>
</tr>
<tr>
<td><strong>Walking and working surfaces</strong></td>
<td>Before work or when employee understanding is questioned</td>
<td>29 CFR Subpart D</td>
<td>Use of ladders, guarding holes, floors, use of railings, toeboards, stairways.</td>
</tr>
</tbody>
</table>
## Table C–2

<table>
<thead>
<tr>
<th>Training Standard</th>
<th>Frequency</th>
<th>Source of Regulation</th>
<th>Training Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA regulations</td>
<td>As needed for management staff responsible for OSHA regulations</td>
<td>As needed for facility</td>
<td>Overview of OSHA regulations and reporting (that is, OSHA 10 or 30 hour training course).</td>
</tr>
<tr>
<td>Workplace violence/supervisor roles</td>
<td>At time of hire and annually</td>
<td>Federal OSHA general duty clause</td>
<td>To supplement employee program, more in depth training on recognition prevention and role of supervisors in dealing with potentially violent employees, company policy.</td>
</tr>
<tr>
<td>Senior manager/manager/supervisor safety competency training</td>
<td>Annually</td>
<td>Federal OSHA general duty clause</td>
<td>EH&amp;S policies and supervisor responsibilities, accident investigation, emergency procedures, reporting requirements, site specific issues.</td>
</tr>
<tr>
<td>Recordkeeping</td>
<td>As needed for management staff responsible for record keeping</td>
<td>As needed for facility</td>
<td>In depth training for OSHA 300 recordkeeping, accident and claims files, length of time to maintain.</td>
</tr>
<tr>
<td>Train the trainer</td>
<td>As needed for supervisors responsible for employee safety programs</td>
<td>As needed for facility</td>
<td>Introduction to basic training program, overview of adult learning models, and review of learning aids for safety program training.</td>
</tr>
<tr>
<td>Training standard</td>
<td>Frequency</td>
<td>Source of regulation</td>
<td>Training required</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td>Defense Occupational and Environmental Health Readiness System - Hearing conservation</td>
<td>Upon initial assignment to area/ annually to employee exposed to 8 hr. TWA of 85 dBA</td>
<td>29 CFR 1910.1020, 95</td>
<td>Inform employees of effects of noise on hearing, purpose of hearing protection, advantage, disadvantage and attenuation of various types, how to select, use and fit test protection, purpose of audiometric tests, and explain test procedures, the structure and elements of the Hearing Conservation Program, the mandatory requirement to wear assigned protective equipment, the administrative actions which may follow for failure to do so and the use of hearing protection.</td>
</tr>
<tr>
<td>Bloodborne pathogens</td>
<td>Upon initial assignment where exposure may take place/annually</td>
<td>29 CFR 1910.1030, 1200, 1020</td>
<td>Explanation of the standard contents, standard to be accessible to employees, transmission of exposure control plan, engineering and work practice controls, PPE, Hepatitis B vaccine, emergency response involving blood, how to handle occupational exposures, past exposure evaluations, signs and labels.</td>
</tr>
<tr>
<td>Personal protective equipment</td>
<td>Upon initial use of equipment/ changes in PPE or workplace, previous training becomes obsolete/employee understanding is questioned</td>
<td>29 CFR 1910.132-139, 1043</td>
<td>When PPE is necessary what PPE is necessary, how to don, adjust and wear PPE, limitations of PPE, proper care, maintenance, useful life and disposal of PPE.</td>
</tr>
<tr>
<td>Eye and face protection</td>
<td>Upon initial assignment for employees who must wear this PPE/change of condition/employee understanding is questioned</td>
<td>29 CFR 1910.133, 1200, 252</td>
<td>Limitation of the equipment and precautions by manufacturer.</td>
</tr>
<tr>
<td>Forklift operation</td>
<td>Upon assignment to forklift/periodically as regulation requires</td>
<td>29 CFR 1910.178</td>
<td>Safe operation, fueling, load distribution and inspection of the truck.</td>
</tr>
<tr>
<td>Powered platforms</td>
<td>Upon assignment to powered platforms/changes in equipment, operations/employee understanding is questioned</td>
<td>29 CFR 1910.66, 67, 68</td>
<td>Personnel trained in operations, safe use, inspection, and emergency response.</td>
</tr>
<tr>
<td>Boat operator training</td>
<td>Upon assignment to boat operations</td>
<td>EM 385–1–1</td>
<td>Training and licensing program for small craft operators. Requires USCG licensing (and training) for operators of larger craft.</td>
</tr>
<tr>
<td>Power presses</td>
<td>Upon assignment to power press operation or maintenance/ changes in equipment, operations/employee understanding is questioned</td>
<td>29 CFR 1910.217</td>
<td>Proper operation and safe work methods for the machine, inspection and maintaining press for maintenance.</td>
</tr>
<tr>
<td>Hazardous energy (lockout/tagout)</td>
<td>Upon assignment to equipment affected by lockout</td>
<td>29 CFR 1910.147</td>
<td>Respect for lock and tag, no attempt at removal, checking equipment after lockout removed.</td>
</tr>
<tr>
<td>Combustible spray coating</td>
<td>Upon assignment to combustible spray coatings/changes in equipment, operations/employee understanding is questioned</td>
<td>29 CFR 1910.107</td>
<td>Application of flammable or combustible materials applied as a spray or hydraulic atomization, dry powders, instruction on ventilation systems, use of PPE.</td>
</tr>
<tr>
<td>USACE construction safety</td>
<td>Upon assignment to oversee/ work on construction projects</td>
<td>EM 385–1–1</td>
<td>Discusses contractor oversight in construction as well as safety for personnel performing/overseeing construction.</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Welding, cutting, brazing</td>
<td>Upon assignment to weld, braze or utilize torches, service welding machines, fire watch/upon assignment to supervise this area/as needed to maintain</td>
<td>29 CFR 1910.252, 133, 134, 151, 157</td>
<td>Welder must pass weld procedure specification and weld performance specs, welder able to address different atmospheres. Fire watches trained in extinguishing methods.</td>
</tr>
<tr>
<td>DOT HAZMAT employee training</td>
<td>Upon assignment to work in shipping, receiving or work in transportation of hazardous materials/biannually</td>
<td>29 CFR 1910.1201, 49 CFR 172.704,173.3</td>
<td>Hazards material properties shipping regulations, manifests, labels, and placards, emergency procedures.</td>
</tr>
<tr>
<td>Chemical safety for chemical handlers</td>
<td>Upon assignment to work in operations involving the immersion of materials in liquids or vapors for cleaning or etching services/ biannually</td>
<td>29 CFR 1910.1450, 1200</td>
<td>Trained in specific chemicals used, PPE and use of eyewash and safety showers.</td>
</tr>
<tr>
<td>Training standard</td>
<td>Frequency</td>
<td>Source of regulation</td>
<td>Training required</td>
</tr>
<tr>
<td>-------------------</td>
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<td>-------------------</td>
</tr>
<tr>
<td>Hazard waste generator/handlers</td>
<td>Upon assignment to work with hazardous waste/minimum 40 hours off-site, 3 days on site/Supervisor at least 9 additional hours, refresher annually/occasional workers 24 hours off-site</td>
<td>29 CFR 1910.120, 1200, 134, 141, 156, 157, 1043</td>
<td>Personnel responsible for site safety and health and health hazards, PPE, work practices, engineering controls, medical surveillance, general knowledge of site safety plan, supervisor receives training on managing operation.</td>
</tr>
<tr>
<td>Slings</td>
<td>Employees designated by the employer/initially/when employee understanding is questioned</td>
<td>29 CFR 1910.184</td>
<td>Usually to manufacturer’s specifications for inspecting for fitness, damage or defects in the sling.</td>
</tr>
<tr>
<td>Cranes</td>
<td>Employees who lift materials with a crane/initially/employee understanding is questioned</td>
<td>29 CFR 1910.179, 180</td>
<td>Safe operation of a crane and inspection of cables, trolley, other functioning parts, understand pendent.</td>
</tr>
<tr>
<td>Radiation safety</td>
<td>Upon assignment to or frequenting any portion of the radiation area for either ionizing (can break chemical bonds) or non-ionizing (cannot break chemical bonds) radiation/annually</td>
<td>29 CFR 1910.97, 1096, 1200, 1020</td>
<td>Inform employees of occurrence of radioactive material or radiation in area, instruct in safety problems associated with exposure, precautions needed to minimize exposure, PPE, report of exposure, inform employee of individual exposure level/train employees who install and operate laser equipment and prove qualification.</td>
</tr>
<tr>
<td>Laser safety</td>
<td>Upon assignment to or frequenting any portion of the radiation area for either ionizing (can break chemical bonds) or non-ionizing (cannot break chemical bonds) radiation/annually</td>
<td>29 CFR 1910.97, 1096, 1200, 1020</td>
<td>Inform employees of occurrence of radioactive material or radiation in area, instruct in safety problems associated with exposure, precautions needed to minimize exposure, PPE, report of exposure, inform employee of individual exposure level/train employees who install and operate laser equipment and prove qualification.</td>
</tr>
<tr>
<td>Ventilation</td>
<td>Upon assignment to work in and around surface tank operations/ process changes/employee knowledge is questioned</td>
<td>29 CFR 1910.94</td>
<td>Hazards of specific job, PPE, first aid procedures applicable to the hazards.</td>
</tr>
<tr>
<td>Flammable and combustible liquids</td>
<td>Employees assigned to operation/employee knowledge is questioned</td>
<td>29 CFR 1910.106, 107, 1200</td>
<td>Detailed, printed instructions on flow, emergency procedures, operators thoroughly informed about locations and operations of valves and other equipment, safe grounding.</td>
</tr>
<tr>
<td>Storage and handling of LPG and gas handing safety</td>
<td>Upon assignment to perform maintenance or operate LPG equipment/personnel dispensing LPG into fuel container/employee knowledge is questioned</td>
<td>29 CFR 1910.110, 151, 252, Subpart S</td>
<td>Operations personnel trained and knowledgeable in proper operations of process equipment as well as loading/unloading duties. Maintenance personnel must be trained in such functions. Train dispensing attendant in duties.</td>
</tr>
<tr>
<td>Forging machines</td>
<td>Frequency not explicitly outlined/employees who operate, maintain forge machinery or equipment</td>
<td>29 CFR 1910.218</td>
<td>Proper inspection and maintenance techniques and activities for the specific equipment.</td>
</tr>
<tr>
<td>Occupational exposure to hazardous material in laboratories</td>
<td>Initial assignment and prior to assignments involving new exposure situation/frequency determined by employer/all employees who work in laboratories</td>
<td>29 CFR 1910.1200, 1450</td>
<td>Methods and observation used to detect presence or release of hazardous chemicals, physical and health hazards of chemicals, measure to protect against chemical hazards, and applicable details of the written chemical hygiene plan.</td>
</tr>
<tr>
<td>Hand and portable power operated and other hand held equipment and compressed air</td>
<td>Upon assignment to use these tools/when employee understanding is questioned</td>
<td>29 CFR 1910.242</td>
<td>Employees trained in the safe condition of tools and equipment including any tools furnished by the employee, PPE required. Compressed air for cleaning must be under 30 p.s.i.</td>
</tr>
<tr>
<td>Powder-actuated hand tools</td>
<td>Upon assignment to use these tools/employee understanding is questioned</td>
<td>29 CFR 1926.302</td>
<td>Employees trained in loading, firing, PPE, flammables, materials to be used on, misfires.</td>
</tr>
<tr>
<td>Pneumatic fastening tools, nailers, staplers and other similar equipment</td>
<td>Upon assignment to use these tools/employee understanding is questioned</td>
<td>29 CFR 1926.302</td>
<td>Employees trained in the safe condition of tools and equipment including any tools furnished by the employee, PPE required</td>
</tr>
<tr>
<td>Die setting</td>
<td>Upon assignment to perform die setting, when employee competence is questioned</td>
<td>29 CFR 1910.217.218</td>
<td>Employees trained in the care of inspection and maintaining dies.</td>
</tr>
<tr>
<td>Safety/Ergonomics Committee</td>
<td>Upon assignment to a committee</td>
<td>MAGNA</td>
<td>Members trained in Health and Safety Act, Federal/state OSHA regs, inspections, accident investigations, JHA.</td>
</tr>
</tbody>
</table>
# Table C-4

<table>
<thead>
<tr>
<th>Training standard</th>
<th>Frequency</th>
<th>Source of regulation</th>
<th>Training required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confined space operations</td>
<td>Upon assignment to enter confined space/annually</td>
<td>29 CFR 1910.146</td>
<td>Confined space entry and operation defined, permit or non-permit spaces, identification of spaces at site, ventilation, air monitoring, PPE, use of site permit program.</td>
</tr>
<tr>
<td>Control of hazardous energy</td>
<td>Upon assignment to use or be affected by lockout/tagout/annually/change in job assignment/change in machines, equipment or process/when annual inspection reveals deviations from the procedure</td>
<td>29 CFR 1910.147</td>
<td>Recognition of applicable energy sources, type and magnitude of energy used, affected employees instructed in the purpose and use of energy control procedures, prohibit attempts to restart equipment when it is locked out. Training certification must contain employee’s name and dates of training.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>Upon assignment to wear respirators/annually</td>
<td>29 CFR 1910.134, 38, 120, 156, 252, 1200, Subpart Z</td>
<td>Proper selection, use, care of respirator, routine use and emergency use instructions, safe use of respirators in dangerous atmospheres, able to fit and wear in test atmosphere, adjusting the respirator, cleaning and disinfecting the respirator.</td>
</tr>
<tr>
<td>Low voltage electrical safety</td>
<td>Upon assignment to work with low voltage electrical or wiring/annually</td>
<td>29 CFR 1910.335</td>
<td>Safety related work practices for both qualified and unqualified employees working on near or with wiring.</td>
</tr>
<tr>
<td>Asbestos awareness</td>
<td>Upon assignment to work with asbestos or suspected</td>
<td>29 CFR 1910.1001, 134, 1200</td>
<td>Health effects of asbestos, relationship to smoking, quantity, location, release, storage, specific nature of operation that could result in exposure, engineering controls, work practices, protection, respirator training, and medical surveillance.</td>
</tr>
<tr>
<td>Lead awareness</td>
<td>Upon assignment to work with lead or suspected lead or potential exposure/annually</td>
<td>29 CFR 1910.1025, 134, 1200</td>
<td>Specific operations that could result in exposure above the action limit, respirator training, purpose, and description of medical surveillance program, engineering controls, contents of any compliance plan.</td>
</tr>
</tbody>
</table>
## Table C-5

### Exposure based training matrix for emergency preparedness and response personnel

<table>
<thead>
<tr>
<th>Training standard</th>
<th>Frequency</th>
<th>Source of regulation</th>
<th>Training required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency response team training</td>
<td>Upon assignment/frequently enough to ensure that each team member is able to perform assigned duties/annually</td>
<td>29 CFR 1910 Subpart E Subpart L</td>
<td>Training should be quality training in sound firefighting and other emergency response principles.</td>
</tr>
<tr>
<td>Hazardous waste operations &amp; emergency response (Hazwoper)</td>
<td>Before employees engage in hazardous waste operations, emergency response/annually</td>
<td>29 CFR 1910.120, 1200, 134, 151, 156, 157</td>
<td>1st responder, 1st responder operation level, HAZMAT tech, HAZMAT specialist, incident commander, all require specific training, basic spill prevention and control hazard and risk assessment, notification of medical requirement.</td>
</tr>
<tr>
<td>CPR and first aid</td>
<td>Upon assignment to render first aid and at periodic intervals to maintain competence</td>
<td>29 CFR 1910.151, 156,</td>
<td>General first aid skills and CPR, qualifications and content of training should be determined by responsible medical consultant. Required in plants not in close proximity to hospital, clinic or infirmary.</td>
</tr>
<tr>
<td>Portable fire extinguishers</td>
<td>Upon initial assignment where fire extinguisher are for employee use and those designated to use firefighting equipment as part of emergency action plans/annually</td>
<td>29 CFR 1910.151, 156</td>
<td>Recognize the type of fire, operate the appropriate fire extinguisher properly, how to fight the fire, incipient fires, and when to leave if fire becomes uncontrollable.</td>
</tr>
<tr>
<td>Site alarm systems/fire protection systems</td>
<td>Employee safety orientation/assignment to a different area</td>
<td>29 CFR 1910.165, 38, 160</td>
<td>Inform employees of preferred methods of reporting emergencies and how alarm and fire protection systems function.</td>
</tr>
<tr>
<td>Emergency management</td>
<td>Employees designated to implement site emergency plan and business continuity program/annually</td>
<td>Facility policy</td>
<td>Training on site emergency management.</td>
</tr>
<tr>
<td>Standpipe and hose systems</td>
<td>Employees who conduct inspections of the systems/no explicit frequency given</td>
<td>29 CFR 1910.158</td>
<td>Be able to perform the required maintenance and inspections on systems, usually outlined by the manufacturer.</td>
</tr>
<tr>
<td>Fixed extinguishing systems</td>
<td>Employees who inspect, maintain and operate the system/initially/annually to review training on functions</td>
<td>29 CFR 1910.160</td>
<td>Be able to inspect, maintain, operate, repair system adequately, usually outlined by the manufacturer.</td>
</tr>
<tr>
<td>Fire detection systems</td>
<td>Employees who service, maintain or test the system/initially/frequently enough to ensure competence</td>
<td>29 CFR 1910.164</td>
<td>Specific system maintenance and testing requirements.</td>
</tr>
<tr>
<td>Training standard</td>
<td>Frequency</td>
<td>Source of regulation</td>
<td>Training required</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>Accident Avoidance</td>
<td>Refresher required every 4 years. Within 30 days of initial assignment</td>
<td>WSMRR385-18</td>
<td>Online- USACR Safety Center, US Army</td>
</tr>
<tr>
<td>Composite Risk Management Job Hazard Analysis</td>
<td>Within 60 days of assignment. All WSMR Military and Civilians</td>
<td>WSMR Installation Safety Action Plan</td>
<td>Online- USACR Safety Center, US Army</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>Upon initial Assignment/With Changes Affected Employees</td>
<td>29 CFR 1926.502 (c)(4)(1)</td>
<td>Provided by Directorate</td>
</tr>
<tr>
<td>Hantavirus</td>
<td>Upon assignment Affected employee where exposure may occur</td>
<td>Public Law 91-596, Section 5</td>
<td>McAfee Health Clinic</td>
</tr>
<tr>
<td>Ionizing Radiation</td>
<td>Upon initial Assignment/With Changes Affected Employees</td>
<td>29 CFR 1926.53 (f)(1)</td>
<td>Provided by Directorate</td>
</tr>
<tr>
<td>Motor Cycle Rodeo</td>
<td>Within 6 months of assignment. Motorcycle Operators</td>
<td>WSMRR385-18</td>
<td>Installation Safety Office</td>
</tr>
<tr>
<td>OSHA 6000</td>
<td>Within 6 months of assignment. Additional/Collateral Duty Safety Officers (Safety Coordinators)</td>
<td>WSMR Memorandum, Safety Coordinator Responsibilities, 06 Oct 14</td>
<td>Online- USACR Safety Center, US Army</td>
</tr>
<tr>
<td>Slip, Trip and Fall Accident Prevention (Includes Walking and Working Surfaces)</td>
<td>Ongoing All Employees</td>
<td>WSMRR385-18</td>
<td>Installation Safety Office or provided by directorate</td>
</tr>
<tr>
<td>UXO Accident Prevention</td>
<td>Upon Assignment All WSMR Military, Civilian and Contractors.</td>
<td>WSMRR385-18</td>
<td>Newcomer’s Orientation, WSMR Home Page or Installation Safety Office</td>
</tr>
<tr>
<td>Wildlife Accident Prevention</td>
<td>Upon Assignment All WSMR Military, Civilian and Contractors.</td>
<td>WSMRR385-18</td>
<td>Newcomer’s Orientation, WSMR Home Page or Installation Safety Office</td>
</tr>
</tbody>
</table>
Appendix D
Risk Management

Risk Management is a systematic approach to identifying hazards and mitigating them to an acceptable level of risk. The Job Hazard Analysis (JHA) should be developed by employees performing the tasks and not just “somebody assigned to do the JHA”. The JHA should be performed by the team of people involved in performing the task. By doing this, employees are more apt to “take ownership” of the JHA and follow the procedures derived from them. Risk Management has collateral benefits besides safety. Performing the Risk Management process can uncover other potential problems in all endeavors.

The 5 Step Process

1. Identify Hazards (along with causes and effects)
2. Assess the Hazards (Probability and Severity)
3. Develop Controls (Mitigations), and make Risk Decisions
4. Implement Controls
5. Supervise and Evaluate

1. Identify Hazards

   a. First, break the job down into operation steps (sometimes called components or tasks).
   b. For each step, determine what can possibly go wrong to cause an accident and list them as hazards (Collision, Slip, trip, fall, explosion, etc).
   c. For each hazard, determine all possible causes for the hazard.

   What are the some causes of hazards?

   - Hazardous arrangement of tools, machines, equipment, supplies, etc.
   - Improper illumination
   - Unsafe ventilation
   - Operating without authority
   - Failure to secure or store materials properly
   - Failure to signal or warn
   - Operating at unsafe speeds
   - Lack of training for personnel

   d. For each hazard, determine the effect of each hazard. What are the some causes of hazards?

   - Death
   - Personal Injury
   - Fire
2. **Assess the Hazards using the Risk Assessment Matrix** – Determine the “Preliminary Risk Level” by assigning Severity and Probability to “RAC Before” using your opinion. If the group cannot agree on the Severities and Probabilities, take a vote.

- **Severity** - how much damage to the daily mission will result from an occurrence? Ranges from Catastrophic to Negligible (I-IV)
- **Probability** - how likely is an accident from the hazard? Ranges from Frequent to Improbable (A-E)

Yields a Risk Assessment Code (RAC) ranging from Low Risk to Extremely High Risk.

3. **Develop Controls and Make Risk Decisions for each hazard** (Controls are sometimes called mitigations or countermeasures) Reassess each hazard. Do not accept a “RAC After” of E or H.

- Engineering controls - eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment. Examples include self-capping syringe needles, ventilation systems such as a fume hood, sound-dampening materials to reduce noise levels, safety interlocks, and radiation shielding.
- Administrative Controls - changes in work procedures such as written safety policies, rules, supervision, and training
- PPE (Personal Protective Equipment) – protective clothing and other work accessories designed to create a barrier against workplace hazards. Examples include safety goggles, blast shields, hard hats, hearing protectors, gloves, respirators, aprons, and work boots.
- Assign Severity and Probability after Mitigation to determine the “Residual Risk Level”. Mitigate hazards to yield Risk Assessment Code and continually move to lowest risk area if possible. Do not accept a RAC Code of Extremely High or High.

4. **Implement Controls** (put mitigations into practice)

- SOP’s
- Training Performance Standards
- Must be converted into clear, simple execution orders understood at all levels

5. **Supervise and Evaluate**

- Continuous assessment - ensures that subordinates understand
- Constant supervision - ensures subordinates are complying with implementation of controls
- Enforce standards and controls
- Continually apply Risk Management Steps
## Risk Assessment Matrix

<table>
<thead>
<tr>
<th>HAZARD SEVERITY</th>
<th>HAZARD PROBABILITY</th>
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<td>PROJECT</td>
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### HAZARD SEVERITY
- **CATASTROPHIC**
  - DEATH OR SYSTEM LOSS
  - **HAZARD PROBABILITY**
    - I
      - RAC I-A: E (EXTREMELY HIGH RISK)
      - RAC I-B: E (EXTREMELY HIGH RISK)
      - RAC I-C: H (HIGH RISK)
      - RAC I-D: H (HIGH RISK)
      - RAC I-E: M (MEDIUM RISK)
- **CRITICAL**
  - SEVERE INJURY OR MAJOR SYSTEM DAMAGE
  - **HAZARD PROBABILITY**
    - II
      - RAC II-A: E (EXTREMELY HIGH RISK)
      - RAC II-B: H (HIGH RISK)
      - RAC II-C: H (HIGH RISK)
      - RAC II-D: M (MEDIUM RISK)
      - RAC II-E: L (LOW RISK)
- **MARGINAL**
  - MINOR INJURY OR MINOR SYSTEM DAMAGE
  - **HAZARD PROBABILITY**
    - III
      - RAC III-A: H (HIGH RISK)
      - RAC III-B: M (MEDIUM RISK)
      - RAC III-C: M (MEDIUM RISK)
      - RAC III-D: L (LOW RISK)
      - RAC III-E: L (LOW RISK)
- **NEGLIGIBLE**
  - LESS THAN MINOR INJURY OR SYSTEM DAMAGE
  - **HAZARD PROBABILITY**
    - IV
      - RAC IV-A: M (MEDIUM RISK)
      - RAC IV-B: L (LOW RISK)
      - RAC IV-C: L (LOW RISK)
      - RAC IV-D: L (LOW RISK)
      - RAC IV-E: L (LOW RISK)

Do not accept a Risk Level of E or H (Extremely High or High).

**Approval Process (as per ATEC 385-1 Regulation)**

**Risk Management Process**

a. Risk management process requires a systematic approach to evaluating the complete operation. Using this approach the process design, technology, operational and
maintenance activities and procedures, non-routine activities and procedures, emergency preparedness plans and procedures, training programs, and other elements which impact the operation are all considered in the risk management evaluation. The Risk Management process is a five-step approach to identifying and mitigating hazards.

(1) Identify risks

(2) Assess risks

(3) Develop controls

(4) Implement controls

(5) Evaluate and supervise

b. The five-step process will be incorporated into every operation. A list of hazards should be maintained and prioritized on a worst hazard first basis. This list should be a living document and changed based upon situational changes and the identification of additional hazards or changes in risk priority.

c. The test risk assessment matrix (Table 13-1 ATEC 385-1) will be used to rate the degree of risk. This will serve to standardize the degree of risk terminology.

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TEST RISK ASSESSMENT MATRIX (TABLE 13-1 ATEC 385-1 Regulation).
Approval procedures

a. Process risk management packages and or SOPs will be approved in accordance with the following guidance.

(1) Extremely high hazard processes are unacceptable from a test operational standpoint and will be reduced to a lower classification through realistic process modifications or controls or not approved.

(2) High hazard processes will require approval by the test center/activity commander prior to commencing operation or test. Copies of high hazard approval correspondence will be provided to the appropriate subordinate command for information.

(3) Medium or low hazard processes require approval by the test center/activity command group (commander, deputy commander, technical director, etc.) prior to commencing operation or test.

b. In those circumstances where local resources are not available to control residual risks to a medium or low risk level, leaders will make a conscious decision to either accept the higher risk or elevate the risk decision to the next higher level of leadership.
Appendix E
## Job Hazard Analysis

<table>
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<th>Task Description</th>
<th>Hazard Description</th>
<th>Hazard Control</th>
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I have, along with my supervisor, included all tasks associated with my general duties and have implemented controls to eliminate and prevent hazards in the workplace. I thoroughly understand and agree to abide by all hazard controls throughout my assignment of each task. This JHA will be updated when any deviations to task result in a hazard or change in control.

Employee Name: _____________________________         Employee Signature:   ________________________________
Date: __________________

As a supervisor I am committed to the safety and health of the employee and will follow through to correct any uncontrolled hazards identified. I will ensure that the employee abides by all hazard controls throughout their assignment.

Supervisor Name: ____________________________         Supervisor Signature:   ________________________________
Date: __________________

Safety Officer Name: __________________________         Safety Officer Signature:   ________________________________
Date: __________________
MEMORANDUM FOR RECORD

SUBJECT: Initial and Annual Review of Job Hazard Analysis

1. In accordance with the provisions set forth in WSMRR 385-18, 1-5 RESPONSIBILITIES: Team White Sands and officers-in-charge are responsible for maintaining a safe and healthful work environment for all employees and visitors.
   a. SUPERVISORS: Supervisors are responsible for the safety and health of their personnel. Specific supervisory duties include incorporating safety into job planning through development of job hazard analyses and standard operating procedures.
   b. EMPLOYEES: Every individual is responsible for accomplishing one's own work in a safe and healthful manner. Employees shall observe all safety procedures and precautions applicable to their work or duty and follow SOPs and special procedures.

2. JHAs should be reviewed annually or when modified and reviewed and signed by affected employees if processes change.

3. A hazard is the potential for harm. In practical terms, a hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness. Identifying hazards and eliminating or controlling them as early as possible will help prevent injuries and illnesses.

4. A Job Hazard Analysis (JHA) is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. Ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level.

5. You can help prevent workplace injuries and illnesses by looking at your workplace operations, establishing proper job procedures, and ensuring that all employees are trained properly. The analysis also can be a valuable tool for training new employees in the steps required to perform their jobs safely. It is very important to involve your employees in the hazard analysis process. They have a unique understanding of the job, and this knowledge is invaluable for finding hazards. Involving employees will help minimize oversights, ensure a quality analysis, and get workers to "buy in" to the solutions because they will share ownership in their safety and health program.

Job Title:________________________________________________________

Employee Name: ________________________________ Signature: _________________ Date: ________________

Supervisor: (Print Name) __________________________ Signature: __________________________ Date: ________________

Safety Office: __________________________ Signature: __________________________ Date: ________________
Appendix F
I. VPP MANAGEMENT LEADERSHIP AND EMPLOYEE INVOLVEMENT

a. Management Commitment

Authority and responsibility for employee safety and health must be integrated with the overall management system of the organization and must involve employees. This commitment includes:

1. Policy. Clearly established policies for worker safety and health protection that have been communicated to and understood by employees; and

2. Goal and Objectives. Established and communicated goal(s) for the safety and health program and results-oriented objectives for meeting the goal(s), so that all members of the organization understand the results desired and the measures planned for achieving them, especially those factors that directly apply to them.

b. VPP Commitment

Management must clearly demonstrate commitment to meeting and maintaining the requirements of the VPP.

c. Planning

Planning for safety and health must be a part of the overall management planning process. In construction, this includes pre-job planning and preparation for different phases of construction as the project progresses. This includes planning for typical as well as unusual/emergency safety and health expenditures in the budget, including funding for prompt correction of uncontrolled hazards.

d. Written Safety and Health

All critical elements of a basic systems management safety and health program must be part of the written program. These critical elements are management leadership and employee involvement, worksite analysis, hazard prevention and control, and safety and health training. Federal agency safety and health programs must also meet the requirements of 29 CFR part 1960, and construction site safety and health programs must also meet the requirements of 29 CFR 1926.20. All aspects of the safety and health program must be appropriate to the size of the worksite and the type of industry. For small businesses, OSHA may waive some formal requirements, such as certain written procedures or documentation, where the effectiveness of the systems has been evaluated and verified. Waivers will be decided on a case-by-case basis.

e. Management Leadership

Managers must provide visible leadership in implementing the program. This must include:
1. Clear Lines of Communication: Establishing clear lines of communication with employees allowing for reasonable employee access to top management at the site.”

2. Setting Example: Setting an example of safe and healthful behavior by following the rules, wearing any required personal protective equipment, reporting hazards, reporting injuries and illnesses, and basically doing anything that they expect employees to do.

3. Reasonable employee access to top site management: Creating an environment that allows for reasonable employee access to top site management.

4. Providing all workers equal high quality protection: Ensuring that all workers at the site, including contract workers, are provided equally high quality safety and health protection.

5. Responsibility: Clearly defining responsibility in writing, with no unassigned areas. Each employee, at any level, must be able to describe his/her responsibility for safety and health to include: Identifying persons whose responsibilities for safety and health includes carrying out safety and health goals and objectives, and clearly defining and communicating their responsibilities in their written job descriptions.”

6. Authority: Assigning adequate authority to those persons who are responsible for safety and health, so they are able to carry out their responsibilities.

7. Resources: Affording adequate resources to those who have responsibility and authority. This includes such resources as time, training, personnel, equipment, budget, and access to information and experts, including appropriate use of certified safety professionals (CSP), certified industrial hygienists (CIH), other licensed health care professionals, and other experts as needed, based on the risks at the site.

8. Accountability: Holding those assigned responsibility for safety and health accountable for meeting their responsibilities through a documented performance standards and appraisal system.

f. Employee Involvement

Employees must be involved in the safety and health management system in at least three meaningful, constructive ways in addition to their right to report a hazard. Avenues for employees to have input into safety and health decisions include participation in audits, accident/incident investigations, self-inspections, suggestion programs, planning, training, job hazard analyses, and appropriate safety and health committees and teams. Employees do not meet this requirement by participating in incentive programs or simply working in a safe manner.
1. Employees must be trained for the task(s) they will perform. For example, they must be trained in hazard recognition to participate in self-inspections.

2. Employees must receive feedback on any suggestions, ideas, reports of hazards, etc. that they bring to management’s attention. A site must provide documented evidence that employees’ suggestions were followed up and implemented when appropriate and feasible.

3. All employees, including new hires, must be notified about the site’s participation in VPP and employees’ rights (such as the right to file a complaint) under the OSH Act. Orientation training curriculum must include this information.

4. Employees and contractors must demonstrate an understanding of and be able to describe the fundamental principles of VPP.

g. Contract Worker Coverage

Contract workers must be provided with safety and health protection equal in quality to that provided to employees.

1. All contractors, whether regularly involved in routine site operations or engaged in temporary projects such as construction or repair, must follow the safety and health rules of the host site.

2. VPP participants must have in place a documented oversight and management system covering applicable contractors. Such a system must:

   a) Ensure that safety and health considerations are addressed during the process of selecting contractors and when contractors are onsite.

   b) Encourage contractors to develop and operate effective safety and health management systems.

   c) Include provisions for timely identification, correction, and tracking of uncontrolled hazards in contractor work areas.

   d) Include a provision for removing a contractor or contractor’s employees from the site for safety or health violations. Note: A site may have been operating effectively for 1 year without actually invoking this provision if just cause to remove a contractor or contractor’s employee did not occur.

3. Injury and Illness Data Requirements
a) Nested contractors (such as contracted maintenance workers) and temporary employees who are supervised by host site management are governed by the site’s safety and health management system and are therefore included in the host site’s rates.

b) Site management must maintain copies of the TCIR (Total Case Incident Rate) and DART (Days Away/Restricted/Transferred) rate data for all applicable contractors based on hours worked at the site.

c) Sites must report all applicable contractors’ TCIR and DART rate data to OSHA annually.

4. Training. Managers, supervisors, and non-supervisory employees of contract employers must be made aware of:

   a) The hazards they may encounter while on the site.

   b) How to recognize hazardous conditions and the signs and symptoms of workplace-related illnesses and injuries.

   c) The implemented hazard controls, including safe work procedures.

   d) Emergency procedures.

h. Safety and Health Program Evaluation

Safety and Health Management System Annual Evaluation - There must be a system and written procedures in place to annually evaluate the safety and health management system. The annual evaluation must be a critical review and assessment of the effectiveness of all elements and sub-elements of a comprehensive safety and health management system. An annual evaluation that is merely a workplace inspection with a brief report pointing out hazards or a general statement of the sufficiency of the system is inadequate for purposes of VPP qualification.

1. The written annual evaluation must identify the strengths and weaknesses of the safety and health management system and must contain specific recommendations, time lines, and assignment of responsibility for making improvements. It must also document actions taken to satisfy the recommendations.

2. The annual evaluation may be conducted by site employees with managers, qualified corporate staff, or outside sources who are trained in conducting such evaluations.

3. At least one annual evaluation and demonstrated corrective action must be completed before VPP approval.
4. The annual evaluation must be included with the participant’s annual submission to OSHA.

II. WORKSITE ANALYSIS

a. Pre-Use Analysis

When considering new equipment, chemicals, facilities, or significantly different operations or procedures, the safety and health impact to the employees must be reviewed. The level of detail of the analysis should be commensurate with the perceived risk and number of employees affected. This practice should be integrated in the procurement/design phase to maximize the opportunity for proactive hazard controls.

b. Safety and Health Surveys

Comprehensive safety and health surveys, at intervals appropriate for the nature of workplace operations, which include:

1. Initial baseline/subsequent safety surveys
   a) Identify and document common safety hazards associated with the site (such as those found in OSHA regulations or building standards, for which existing controls are well known), and how they are controlled.
   b) Identify and document safety and health hazards that need further study.
   c) Cover the entire work site, indicate who conducted the survey, and when it was completed.
   d) The original baseline hazard analysis need not be repeated subsequently unless warranted by changes in processes, equipment, hazard controls, etc.

2. Initial baseline/subsequent industrial hygiene surveys

   **Baseline Safety and Industrial Hygiene Hazard Analysis.** A baseline survey and analysis is a first attempt at understanding the hazards at a worksite. It establishes initial levels of exposure (baselines) for comparison to future levels, so that changes can be recognized. Systems for identifying safety and industrial hygiene hazards, while often integrated, may be evaluated separately. Baseline surveys must:

   a) Identify and document common safety hazards associated with the site (such as those found in OSHA regulations or building standards, for which existing controls are well known), and how they are controlled.
b) Identify and document common health hazards (usually by initial screening using direct-reading instruments) and determine if further sampling (such as full-shift dosimetry) is needed.

c) Identify and document safety and health hazards that need further study.

d) Cover the entire work site, indicate who conducted the survey, and when it was completed.

e) The original baseline hazard analysis need not be repeated subsequently unless warranted by changes in processes, equipment, hazard controls, etc.

Industrial Hygiene (IH) Program. A written IH program is required. The program must establish procedures and methods for identification, analysis, and control of health hazards for prevention of occupational disease.

a) IH Surveys. Additional expertise, time, technical equipment, and analysis beyond the baseline survey may be required to determine which environmental contaminants (whether physical, biological, or chemical) are present in the workplace, and to quantify exposure so that proper controls can be implemented.

b) Sampling Strategy. The written program must address sampling protocols and methods implemented to accurately assess employees’ exposure to health hazards. Sampling should be conducted when:

1) Performing baseline hazard analysis, such as initial screening and grab sampling.

2) Baseline hazard analysis suggests that more in-depth exposure analysis, such as full-shift sampling, is needed.

3) Particularly hazardous substances (as indicated by an OSHA standard, chemical inventory, material safety data sheet, etc.) are being used or could be generated by the work process.

4) Employees have complained of signs of illness.

5) Exposure incidents or near-misses have occurred.

6) It is required by a standard or other legal requirement.

7) Changes have occurred in such things as the processes, equipment, or chemicals used.
8) Controls have been implemented and their effectiveness needs to be determined.

9) Any other instance when the VPP applicant or participant determines that sampling is warranted.

c) **Sampling Results.** Sampling results must be analyzed and compared to at least OSHA permissible exposure limits (PELs) to determine employees’ exposure and possible overexposure. Comparison to more restrictive levels, such as action levels, threshold limit values (TLVs), or self-imposed standards is encouraged to reduce exposures to the lowest feasible level.

1) **Documentation.** The results of sampling must be documented and must include a description of the work process, controls in place, sampling time, exposure calculations, duration, route, and frequency of exposure, and number of exposed employees.

2) **Communication.** Sampling results must be communicated to employees and management.

3) **Use of Results.** Sampling results must be used to identify areas for additional, more in-depth study, to select hazard controls, and to determine if existing controls are adequate.

d) **IH Expertise.** IH sampling should be performed by an industrial hygienist, but initial sampling, full-shift sampling, or both may be performed by safety staff members with special training in the specific procedures for the suspected or identified health hazards in the workplace.

1) **Procedures.** Standard, nationally recognized procedures must be used for surveying and sampling as well as for testing and analysis.

2) **Use of Contractors.** If an outside contractor conducts industrial hygiene surveys, the contractor’s report must include all sampling information listed above and must be effectively communicated to site management. Any recommendations contained in the report should be considered and implemented where appropriate. Use of contractors does not remove responsibility for the IH program, including identification and control of health hazards, from the VPP applicant or participant.

c. **Routine Hazard Analysis**

**Hazard Analysis of Routine Job and Tasks** - Task-based or system/process hazard analyses must be performed to identify hazards of routine jobs, tasks, and processes in order to recommend adequate hazard controls. Acceptable techniques include, but are not limited to: Job Hazard Analysis (JHA), and Process Hazard Analysis (PrHA).
Hazard analyses should be conducted on routine jobs, tasks and processes that:

1. Have written procedures.

2. Have had injuries/illnesses associated with them or have experienced significant incidents or near-misses.

3. Are perceived as high-hazard tasks, i.e., they could result in a catastrophic explosion, electrocution, or chemical over-exposure.

4. Have been recommended by other studies and analyses for more in-depth analysis.

5. Are required by a regulation or standard.

6. Any other instance when the VPP applicant or participant determines that hazard analysis is warranted.

Hazard Analysis of Significant Changes. Hazard analysis of significant changes, including but not limited to non-routine tasks (such as those performed less than once a year), new processes, materials, equipment and facilities, must be conducted to identify uncontrolled hazards prior to the activity or use, and must lead to hazard elimination or control.

If a non-routine or new task is eventually to be done on a routine basis, then a hazard analysis of this routine task should subsequently be developed.

Documentation and Use of Hazard Analyses. Hazard analyses performed to meet the requirements of the paragraph (Hazard Analysis of Significant Changes) above and Paragraph II.a. (Pre-use analysis) must be documented and must:

1) Consider both health and safety hazards.

2) Identify the steps of the task or procedure being analyzed, hazard controls currently in place, recommendations for needed additional or more effective hazard controls, dates conducted, and responsible parties.

3) Be used in training in safe job procedures, in modifying workstations, equipment or materials, and in future planning efforts.

4) Be easily understood.

5) Be updated as the environment, procedures, or equipment change, or errors are found that invalidate the most recent hazard analyses.

d. Routine Self-inspections
A system is required to ensure routinely scheduled self-inspections of the workplace. It must include written procedures that determine the frequency of inspection and areas covered, those responsible for conducting the inspections, recording of findings, responsibility for abatement, and tracking of identified hazards for timely correction. Findings and corrections must be documented.

1. Inspections must be made at least monthly, with the actual inspection schedule being determined by the types and severity of hazards.

2. The entire worksite must be covered at least once each quarter.

3. Top management and others, including employees who have knowledge of the written procedures and hazard recognition, may participate in the inspection process.

4. Personnel qualified to recognize workplace hazards, particularly hazards peculiar to their industry, must conduct inspections.

5. Documentation of inspections must evidence thoroughness beyond the perfunctory use of checklists.

a. Employee Hazard Reporting System

Hazard Reporting System for Employees. The site must operate a reliable system that enables employees to notify appropriate management personnel in writing—without fear of reprisal—about conditions that appear hazardous, and to receive timely and appropriate responses. The system can be anonymous and must include timely responses to employees and tracking of hazard elimination or control to completion.

b. Accident/Incident Investigations

Investigation of Accidents and Near-Misses. The site must investigate all accidents and near-misses and must maintain written reports of the investigations. Accident and near-miss investigations must:

1. Be conducted by personnel trained in accident investigation techniques. Personnel who were not involved in the accident or who do not supervise the injured employee(s) should conduct the investigation to minimize potential conflicts of interest.

2. Document the entire sequence of relevant events.

3. Identify all contributing factors, emphasizing failure or lack of hazard controls.

4. Determine whether the safety and health management system was effective, and where it was not, provide recommendations to prevent recurrence.
5. Not place undue blame or reprisal on employees, although human error can be a contributing factor.

6. Assign priority, time frames, and responsibility for implementing recommended controls.

7. The results of investigations (to include, at a minimum, a description of the incident and the corrections made to avoid recurrence) must be made available to employees on request, although the actual investigation records need not be provided.

c. Trend Analysis

The process must include analysis of information such as injury/illness history, hazards identified during inspections, employee reports of hazards, and accident and near-miss investigations for the purpose of detecting trends. The results of trend analysis must be shared with employees and management and utilized to direct resources; prioritize hazard controls; and determine or modify goals, objectives, and training to address the trends.”

III. HAZARD PREVENTION AND CONTROL

a. Hazard Controls/Disciplinary System

The hazard controls a site chooses to use must be:

1. Understood and followed by all affected parties;

2. Appropriate to the hazards of the site;

3. Equitably enforced through a clearly communicated written disciplinary system that includes procedures for disciplinary action or reorientation of managers, supervisors, and non-supervisory employees who break or disregard safety rules, safe work practices, proper materials handling, or emergency procedures;

4. Written, implemented, and updated by management as needed, and must be used by employees; and

5. Incorporated in training, positive reinforcement, and correction programs

b. Hazard Correction Tracking

A documented system must be in place to ensure that hazards identified by any means (self-inspections, accident investigations, employee hazard reports, preventive maintenance, injury/illness trends, etc.) are assigned to a responsible party and corrected in a timely fashion. This system must include methods for:

1. Recording and prioritizing hazards, and
2. Assigning responsibility, time-frames for correction, interim protection, and follow-up to ensure abatement.

c. Preventive/Predictive Maintenance

Preventive Maintenance of Equipment. A written preventive and predictive maintenance system must be in place for monitoring and maintaining workplace equipment. Equipment must be replaced or repaired on a schedule, following manufacturers’ recommendations, to prevent it from failing and creating a hazard. Documented records of maintenance and repairs must be kept. The system must include maintenance of hazard controls such as machine guards, exhaust ventilation, mufflers, etc.

d. Occupational Health Care Program

1. Licensed health care professionals must be available to assess employee health status for prevention, early recognition, and treatment of illness and injury.

2. Arrangements for needed health services such as pre-placement physicals, audiograms, and lung function tests must be included.

3. Employees trained in first aid, CPR providers, physician care, and emergency medical care must be available for all shifts within a reasonable time and distance. The applicant or participant may consider, based on site conditions, providing Automated External Defibrillators (AEDs) and training in their use.

4. Emergency procedures and services including provisions for ambulances, emergency medical technicians, emergency clinics or hospital emergency rooms should be available and explained to employees on all shifts. Also see paragraph h below.

e. Emergency Procedures

Emergency Preparedness and Response. Written procedures for response to all types of emergencies (fire, chemical spill, accident, terrorist threat, natural disaster, etc.) on all shifts must be established, must follow OSHA standards, must be communicated to all employees, and must be practiced at least annually. These procedures must list requirements or provisions for:

1. Assessment of the emergency.

2. Assignment of responsibilities (such as incident commander).

3. First aid.

4. Medical care.
5. Routine and emergency exits.


7. Emergency meeting places.

8. Training drills, minimally including annual evacuation drills. Drills must be conducted at times appropriate to the performance of work so as not to create additional hazards. Coverage of critical operations must be provided so that all employees have an opportunity to participate in evacuation drills.

9. Documentation and critique of evacuation drills and recommendations for improvement.

10. Personal protective equipment where needed.

f. Hazard Elimination and Control

Hazard Elimination and Control Methods. The types of hazards employees are exposed to, the severity of the hazards, and the risk the hazards pose to employees should all be considered in determining methods of hazard prevention, elimination, and control. In general, the following hierarchy should be followed in determining hazard elimination and control methods. When engineering controls have been studied, investigated, and implemented, yet still do not bring employees’ exposure levels to below OSHA permissible exposure limits; or when engineering controls are determined to be infeasible, then a combination of controls may be used. Whichever controls a site chooses to employ, the controls must be understood and followed by all affected parties; appropriate to the site’s hazards; equitably enforced through the disciplinary system; written, implemented, and updated by management as needed; used by employees; and incorporated in training, positive reinforcement, and correction programs.

1. Engineering. Engineering controls directly eliminate a hazard by such means as substituting a less hazardous substance, by isolating the hazard, or by ventilating the workspace. These are the most reliable and effective controls.

   Protective Safety Devices. Although not as reliable as true engineering controls, such methods include interlocks, redundancy, failsafe design, system protection, fire suppression, and warning and caution notes.

2. Administrative. Administrative controls significantly limit daily exposure to hazards by control or manipulation of the work schedule or work habits. Job rotation is a type of administrative control.

3. Work Practices. These controls include workplace rules, safe and healthful work practices, personal hygiene, housekeeping and maintenance, and procedures for specific operations.
4. Personal Protective Equipment (PPE). PPE to be used are determined by hazards identified in hazard analysis. PPE should only be used when all other hazard controls have been exhausted or more significant hazard controls are not feasible.

IV. SAFETY AND HEALTH TRAINING

1. Understanding of safety and health responsibilities
   
a) Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.

b) Training required by OSHA standards must be provided in accordance with the particular standard.

c) Managers and supervisors must understand their safety and health responsibilities and how to carry them out effectively.

d) New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.

e) Persons responsible for conducting hazard analysis, including self-inspections, accident/incident investigations, job hazard analysis, etc., must receive training to carry out these responsibilities, e.g., hazard recognition training, accident investigation techniques, etc.

f) Training attendance must be documented. Training frequency must meet OSHA standards, or for non-OSHA required training, be provided at adequate intervals. Additional training must be provided when used in work processes, new equipment, new procedures, etc. occur.

g) Training curricula must be up-to-date, specific to worksite operations, and modified when needed to reflect changes and/or new workplace procedures, trends, hazards and controls identified by hazard analysis. Training curricula must be understandable for all employees.

h) Persons who have specific knowledge or expertise in the subject area must conduct training.

2. Hazard Recognition
Managers, supervisors, and non-supervisory employees (including contract employees) must be made aware of hazards, and are taught how to recognize hazardous conditions and the signs and symptoms of workplace-related illnesses.

3. Safe Work Practices

Managers, supervisors, and non-supervisory employees (including contractor employees) must learn the safe work procedures to follow in order to protect themselves from hazards, through training provided at the same time they are taught to do a job and through reinforcement.

4. Emergencies

Managers, supervisors, non-supervisory employees (including contractor employees), and visitors on the site must understand what to do in emergency situation. Training should be provided for all employees regarding their responsibilities for each type of emergency.

5. Personal Protective Equipment

Where personal protective equipment is required, employees must understand that it is required, why it is required, its limitations, how to use it, and how to maintain it; and employees use it properly.
WHITE SANDS MISSILE RANGE
HAZARD COMMUNICATION
PROGRAM/HANDBOOK

01 November 2015
Table of Contents

<table>
<thead>
<tr>
<th>SECTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purpose</td>
<td>3</td>
</tr>
<tr>
<td>2. Scope</td>
<td>3</td>
</tr>
<tr>
<td>3. References</td>
<td>4</td>
</tr>
<tr>
<td>4. When Does HAZCOM Apply?</td>
<td>4</td>
</tr>
<tr>
<td>5. Responsibilities</td>
<td>5</td>
</tr>
<tr>
<td>6. Employees’ Rights</td>
<td>7</td>
</tr>
<tr>
<td>7. Employee Training</td>
<td>8</td>
</tr>
<tr>
<td>8. Non-Routine Tasks</td>
<td>9</td>
</tr>
<tr>
<td>9. Safety Data Sheets</td>
<td>10</td>
</tr>
<tr>
<td>10. Hazard Material Inventory</td>
<td>13</td>
</tr>
<tr>
<td>11. Hazard Communication Instructions</td>
<td>14</td>
</tr>
<tr>
<td>12. HAZCOM Station</td>
<td>15</td>
</tr>
<tr>
<td>13. Container Labeling System</td>
<td></td>
</tr>
<tr>
<td>14. Flammable Storage on WSMR</td>
<td></td>
</tr>
</tbody>
</table>

**APPENDICIES**

<table>
<thead>
<tr>
<th>APPENDICIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Site Specific Information</td>
<td>16</td>
</tr>
<tr>
<td>B. Training Record</td>
<td>18</td>
</tr>
<tr>
<td>C. Annual Inventory Information</td>
<td>25</td>
</tr>
</tbody>
</table>
Section 1. PURPOSE

This document is intended to provide the information required for the implementation of the White Sands Missile Range (WSMR) Hazard Communication (HAZCOM) Program.

The primary purpose of this program is to inform personnel of their right to know about the hazards and potential hazards of the materials they work with or near and the methods available to reduce the risk of accident or illness from the use of those materials in accordance with the Hazard Communication Standard (Title 29 of the Code of Federal Regulations (CFR) Section 1910.1200), which covers all employees and non-employee affiliates who work with, or near hazardous materials.

The WSMR HAZCOM Program applies to all work operations at WSMR where personnel have the potential to be exposed to hazardous materials under normal working conditions or during emergency situations. All personnel should be informed of the contents of the WSMR HAZCOM Program, the hazardous properties of materials, safe handling procedures, and measures of protection. This information shall be communicated to all personnel by means of:

a. A written site-specific Hazard Communication Program (this document) for each workplace

b. Training, to include non-routine tasks

c. Safety Data Sheets

d. Hazardous Materials Inventory List

e. Container Labeling

Section 2. SCOPE

a. This program applies to all WSMR civilian, military, contractor, and tenant personnel. Contractor and tenant organizations are responsible for conducting the HAZCOM training of their personnel.

b. HAZCOM is specifically applicable to the use of hazardous materials. A material is defined as hazardous if it exhibits either a physical or health hazard (ref; 29 CFR 1910.1200).

(1) A physically hazardous material is a material for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

(2) Health hazardous materials are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. This can occur through skin absorption, inhalation, swallowing, eye contact, or through the nasal passage.

Section 3. REFERENCES


b. 29 CFR 1960, Basic Program Elements for Federal Employee Occupational Safety and Health (OSHA) Programs and Related Matters
Section 4. WHEN DOES HAZCOM APPLY?

Supervisors must first determine if a material used in the workplace is hazardous as defined previously in Section 2. SCOPE, paragraph (b) of this document. If a product in the workplace is determined to be hazardous by the definition, HAZCOM applies. **HAZCOM would apply for products such as white-out, white board eraser, glass cleaner, markers, and toner.** HAZCOM will not apply to pens, pencils, or adhesive tape for this program.

When questionable situations arise you are to contact the Installation Safety Office at 678-2305 to assist in making the final determination.

Certain substances are exempt from the requirements of the OSHA Hazard Communication Standard and this program; therefore, HAZCOM does not apply. These include:

a. Hazardous waste (handled in accordance with the United States Environmental Protection Agency (U.S. EPA) regulations)

b. Tobacco or tobacco products

c. Wood or wood products (see note below)

d. Food or cosmetics intended for personal consumption by any person while in the workplace or located in a retail establishment, which are packaged for sale by consumers

e. Drugs regulated by the U.S. Food and Drug Administration in the non-manufacturing sector

Note: Wood or wood products, including lumber which will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility (wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut, generating dust, are not exempted).

Section 5. RESPONSIBILITIES

a. Directors are responsible for implementing the HAZCOM program in accordance with this document. They are ultimately responsible for ensuring individual supervisory areas are in compliance with the program, and for guaranteeing that all employees receive HAZCOM training as it applies.
b. The supervisor or the responsible designee must ensure that all requirements and procedures outlined in the HAZCOM program are appropriate to the individual work areas under their supervision and are carried out properly by the following actions:

1) Maintain a current listing of all hazardous materials in the work area. Provide readily available access to SDSs. (NOTE: Although at WSMR hard copies are the preferred method, employers may maintain electronic copies of SDSs instead of hard copies as long as procedures are established on how to retrieve SDSs electronically. Procedures should include back-up systems to be used in the event of an emergency and failure of the electronic equipment, and how employees obtain access to the SDSs. "Emergency" is defined as foreseeable failures in the electronic system such as power outages, equipment failures, on-line access delays, etc., and is not meant to encompass catastrophic events, medical emergencies, or other situations.)

2) Maintain a copy of the WSMR Hazard Communication Program, with site- specific information in Appendices completed.

3) Maintain current training documentation specific to the materials to which they may be exposed.

4) Ensure the SDS’s and associated WSMR HAZCOM Program documents (general and site-specific) must be readily available to employees, contract personnel, as well as visitors.

5) Ensure that hazardous materials are labeled in accordance with the WSMR HAZCOM Program.

6) Ensure that those who may be exposed to hazardous materials are informed of the personnel protection requirements.

7) Ensure that all employees, contract personnel, and visitors are properly trained in accordance with the HAZCOM program. All visitors must be trained on site-specific hazards prior to entry into a location that contains hazardous materials.

c. Employees are responsible for following and observing all appropriate practices and procedures contained in the WSMR HAZCOM Program, including required training, understanding of the training, and applying the training received. It is also the employees’ responsibility to report unsafe conditions, illnesses, injuries, and near-misses to their supervisors.

d. The Installation Safety Office is responsible for inspecting, reviewing, and overseeing the implementation of the Hazard Communication Program. This includes coordinating the compliance effort, acting as a consultant for areas regarding implementation and enforcement, evaluating work practices and personal protective equipment, providing program materials to different areas, assist with tracking employee training, and ensuring that all levels of supervisory personnel are informed of their HAZCOM program responsibilities in accordance with 29 CFR 1910.1200. (Additional inspectors, i.e. DPW-Construction Inspectors, Contracting Officers, New Mexico Environment Department (NMED), the U.S. EPA, OSHA, and WSMR’s (EAP) Environmental Assistance Program can also inspect for compliance with 29 CFR 1910.1200.)

e. Logistics Readiness Center (LRC) will provide an SDS for all materials distributed through LRC bldg 1840 phone number is 678-4577. LRC is responsible for establishing procedures ensuring that all hazardous materials transported onto the installation are properly identified and labeled. LRC will bar code the materials, obtain SDSs from the distributor; notify the user when materials are available for pick-up, and tracking the material while at WSMR.

f. The WSMR Industrial Hygienist at McAfee Health Clinic (674-3516) in conjunction with the WSMR Occupational Health Section (OH) will provide medical surveillance where necessary. This OH office will track and schedule required physicals and maintain health records. If a supervisor or employee has any concerns about a specific job function they should contact the WSMR Industrial Hygienist immediately.
WSMRR 385-18

g. Contractors:

1) Contractors who work in areas in which no WSMR personnel are currently employed, e.g. construction of new facilities and/or renovation of cleaned and evacuated areas, shall comply with the WSMR Hazard Communication Program for their employees.

2) Contractors who work in an area in which WSMR personnel are using or storing hazardous materials shall be provided with a list of hazardous materials in use in that area, access to SDS for those materials, a copy of the WSMR Hazard Communication Program, and training specific to the hazardous materials to which they may be exposed.

3) Contractors that use hazardous materials in areas where WSMR personnel or other contractors may be exposed shall maintain a copy of the WSMR Hazards Communication Program, hazardous material inventory list, and have copies of the SDSs readily available at the site for each hazardous material used in that area.

Section 6. EMPLOYEES’ RIGHTS

The Hazard Communication Standard (29 CFR 1910.1200) grants you, as an employee, certain rights. These are your rights:

a. To have the physical and health hazards of your workplace evaluated by your employer.

b. To be informed of the hazardous materials to which you could be exposed, either during the normal course of work or in the event of a foreseeable emergency.

c. To be informed of those hazards or hazardous materials when you are initially assigned into your work area or whenever new physical or health hazards are introduced.

d. To be informed as to procedures which are available to protect you from these hazards. These may include:

   1) Engineering controls, e.g. laboratory hoods, vents, etc.

   2) Appropriate work practices, e.g. hygiene, housekeeping, etc.

   3) Personal protective equipment, e.g. eye protection, respirators, etc.

e. To have a written hazardous communication program which includes:

   1) A hazardous material inventory, a list of the hazardous materials present in your workplace.

   2) Access to SDSs for the materials used in your work environment.

   3) Labeling practices to ensure that all containers are appropriately labeled.

   4) A Job Hazard (Safety) Analysis (JHA) on file for each employee identifying chemical hazards and mitigations for chemical hazards.

f. To be trained on the details of the above-mentioned topics as well as methods and observations that may be used to detect the presence or release of hazardous materials.
It is important to realize that along with these rights is an implied responsibility of each individual to follow all the guidelines of this WSMR HAZCOM Program, to handle each hazardous material safely as described in the SDS, to use appropriate personal protective equipment, and observe safe work practices.

Section 7. EMPLOYEE TRAINING

The WSMR HAZCOM Program requires that all personnel must be supplied with information and training on hazardous materials in their work area upon initial assignment (General and Site Specific HAZCOM Training), whenever a new hazardous material is introduced into the work setting (Site Specific HAZCOM Training), or whenever an employee is assigned to perform a non-routine task (Site Specific HAZCOM Training).

It is WSMR policy to provide regular training through safety meetings to ensure the effectiveness of the program. It is the responsibility of the supervisor to ensure that site-specific HAZCOM training is reviewed with affected employees as needed and documented.

The general HAZCOM Training shall be reviewed and documented and updated as necessary.

Hazard communication training must include the following:

Site Specific HAZCOM Training:

1) Reviewing any operations in the work area in which hazardous materials are used (to include non-routine tasks) (Section 8. NON-ROUTINE TASKS).

2) The location and availability of the HAZCOM written program including work-area-specific guidelines

3) The Hazardous Material Inventory List (Section 10. HAZARDOUS MATERIAL INVENTORY)

4) Where and how to obtain SDSs (Section 9. SAFETY DATA SHEETS)

5) Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods used to detect the presence or release of hazardous materials, such as the visual appearance or odor when released (available from the SDS’s and Glossary of SDS Terms at Appendix D)

6) The physical hazards (e.g., potential for fire, explosion, etc.) and health hazards of the materials in the work area (Available from the SDS’s and Glossary of SDS Terms at Appendix D)

7) The methods personnel can use to protect themselves from exposure to hazardous materials including work area specific guidelines for work practices and personal protective equipment (Available from the SDS’s and Glossary of SDS Terms at Appendix D)

8) Steps to be taken in case material is released or spilled, waste disposal method, and precautions to be taken in handling or storage (Available from the SDS and Glossary of SDS Terms at Appendix D)

9) Emergency procedures to be used in the event of an accident or injury (available from the SDS and Glossary of SDS Terms at Appendix D)

General HAZCOM Training:
Section 8. NON-ROUTINE TASKS

When an employee is required to perform hazardous non-routine tasks, a special training session will be conducted to inform the employee of the hazardous materials to which they may be exposed and the proper precautions to take to reduce or avoid exposure (contact the Safety Office for specifics). A non-routine task is one that is not normally conducted under normal circumstances.

For example, a shop employee routinely uses a particular solvent to clean engine parts. The shop receives an unusual request to clean a new type of engine that requires a special solvent (a non-routine task). Any hazards introduced by the new solvent or any special handling and emergency procedures must be reviewed by the employer and made known to all the employees involved.

Any employee engaging in a non-routine task involving possible chemical hazards should first contact their supervisor.

The supervisor shall ensure that employees are informed of:

1) The specific hazards associated with the performance of the task

2) Protective measures that must be used

3) Measures that the supervisor of the area has taken to lessen these hazards (ventilation, personal protective equipment, etc.)

4) Specific emergency procedures to be used in the event of an accident or injury call 911

Section 9. SAFETY DATA SHEETS

There must be readily available access to safety data sheets (SDS) in the workplace for each hazardous material with the exception of those exempted (Section 4. WHEN DOES HAZCOM APPLY?).

SDSs provide specific information on the material used. The preferred system for maintaining the hazard material inventory and SDS includes a file cabinet or yellow binder with an alphabetized inventory at the
front of the cabinet or binder with cross reference numbers corresponding to tabbed SDSs for quick retrieval. A copy of this HAZCOM handbook and the SDSs must be readily available to all personnel during their work shift including those working uprange, overtime or weekends.

Supervisors are responsible for obtaining SDSs through the Hazardous Materials Management System (HMMS), the chemical manufacturer, online source, or any other appropriate source. The hazardous material inventory shall be placed at the front of the SDS binder. Any hazardous material received from the HMMS will have an SDS that corresponds to that hazardous material and manufacturer. In the event the correct SDS is not received, it should be requested from the HMMS. If the correct SDS cannot be provided, do not receive or use the material and request a substitute item. If a substitute item is not available, the employee must notify his/her supervisor.

In cases where several organizations occupy the same building, the SDS’s from all or part of the organizations may be consolidated into one binder and HAZCOM Station.

When personnel travel between different work sites, SDSs may be kept at the primary location except when the hazardous material is being stored at the work site, an additional set of SDSs should be kept at the added work sites. The Installation Safety Office and Environmental Compliance inspection personnel will ensure that each work site maintains an SDS for each hazardous material in that area.

As per the OSHA GHS, all manufacturers and distributors must comply with ANSI Z400.1, distributors have until 12/1/15 to provide revised labels for all products shipped. The only acceptable standard for SDSs are as follows:

**ANSI Standard Z400.1/Z129.1-2010**

   This includes the address and telephone number of the manufacturer. The names of different grades of the material and any generic names can also be found here. This section also includes emergency phone numbers to use in the event of an accident or accidental release of this material.

2. Composition and Information on Ingredients.
   All ingredients that are hazardous, individually or in combination with other ingredients, are listed here. Some SDSs list only the hazardous ingredients. Some list hazardous ingredients plus other significant ingredients. Others list hazardous ingredients present as 1% or more of the total formula (0.1% if they are carcinogenic). And others simply list all the ingredients.

3. Hazards Identification.
   This section describes the color, shape, odor, and vapors of the material. Also listed are potential health effects to the eyes and skin, as well as the effects of inhalation and ingestion. Information about flammability, combustibility, and explosivity is also listed here.

4. First-Aid Measures.
   This section covers how to treat overexposure to a chemical, along with antidotes that can be administered to a victim. This section may also include information for physicians about clinical testing and treatment.

5. Fire-Fighting Measures- This section covers fire-fighting measures, the use of appropriate fire extinguishers, and basic fire-fighting requirements. Information about the flammable properties of the material, including flash point, upper and lower flammable limits, flammability classification, auto ignition temperature, and the release of flammable vapors is defined in this section.

WSMRR 385-18
Information on containment techniques, clean-up procedures, and emergency equipment required for spills and other releases of the material is included here. The information in this section is primarily for the benefit of emergency responders.

7. Handling and Storage.
This section emphasizes precautions that are proper for the unique properties of the material. Listed here are practices that minimize contact between the worker and the material, as well as risks of fire and explosion, and spills.

8. Exposure Controls and Personal Protection.
Information on practices and/or equipment useful for minimizing worker exposure, guidance on personal protective equipment, and exposure guidelines may appear in this section.

Characteristics of the hazardous material are listed: odor, physical state, pH level, vapor pressure, vapor density, boiling point, freezing or melting point, solubility in water, specific gravity or density. You may also find some of the following information about a chemical (when appropriate): heat value, particle size, volatile organic compounds content, softening point, evaporation rate, viscosity, bulk density, molecular weight, molecular formula.

10. Stability and Reactivity.
This section describes conditions that could result in a hazardous material reaction. Also included here is information about material stability, incompatibility with other materials, hazardous polymerization, and hazardous materials created as the material decomposes.

11. Toxicological Information.
Background data (including the results of tests and studies involving the material) used to determine the hazards presented by this material will appear in this section.

12. Ecological Information.
Information included in this section is intended to help the environmental professionals determine the impact of the material on the environment in the event of a release.

This section provides information about chemical classification under the waste disposal laws, chemical and physical properties of the material, and special disposal instructions.

14. Transport Information.
Basic shipping classification information may appear in this section.

15. Regulatory Information.
Here you'll find information about the regulatory status of the materials, including its components and regulated uses. In addition to OSHA regulations, this section may discuss the regulations of other federal agencies, and of other nations.

16. Other Useful Information.
This section contains any other information the manufacturer thinks might be useful to the user.

Section 10. HAZARDOUS MATERIAL INVENTORY
Section 11. HAZARD COMMUNICATION INSTRUCTIONS

To complete/update the Hazard Communication Program, the supervisor or his responsible designee of each work area shall do the following:

1. Determine if HAZCOM does not apply to products (Section 4. WHEN DOES HAZCOM APPLY?).

2. Complete/update the Site Specific Information section (Appendix A, Site Specific Information).

3. Inventory each workplace for the presence of hazardous materials for which HAZCOM applies (Section 10. HAZARD MATERIAL INVENTORY). This includes materials that could result in exposure through its use (e.g. welding rods, solder). Inventories are to be conducted annually (preferably during the month of January) and documented (Appendix C, Annual Inventory Information).

4. Ensure that all material containers (both original and secondary containers) are properly labeled (Section 13, GHS Container Labeling System).

5. Ensure that an SDS is readily available with a corresponding tab for each material appearing on the inventory list (Section 9. SAFETY DATA SHEETS).

6. Set up the HAZCOM station (Section 12. HAZCOM STATION).

7. Complete the HAZCOM Training (Section 7. EMPLOYEE TRAINING).

8. General and site-specific HAZCOM Training shall be conducted upon initial assignment and site-specific HAZCOM training shall be conducted each time a new chemical is introduced into the workplace or whenever an employee is assigned to perform a non-routine task.

9. General HAZCOM Training shall be reviewed every five years or as needed.

10. Training and/or review must be completed prior to assigning employee into hazardous area.

11. Each worker shall sign the Hazard Communication Program training record or similar (Appendix B, Training Record) and the records must be readily available for review by all inspectors.

Section 12. HAZCOM STATION
1. Each work area that uses hazardous materials shall have a prominently displayed HAZCOM Station. These stations will be immediately accessible to employees and visitors as they enter the facility and accessible to employees during their normal workday.

2. **In cases where several organizations occupy the same building, the SDS’s from all or part of the organizations may be consolidated into one binder and HAZCOM Station.**

3. Each HAZCOM Station will have the following as a minimum:

   a. SDSs in orderly manner (preferably grouped alphabetically by the first letter of the product name, and preferably in a yellow or red binder with the words Safety Data Sheets prominently displayed on the front, rear, and sides of the binder).

   b. Current SDS for each product.

   c. Current inventory of HM (Hazardous Material), with tabs corresponding to each SDS.

   d. A GHS Quick Reference Chart or similar chart designed to explain to the employee’s general station information and use.

   e. Emergency/Evacuation plan showing:
      - A floor plan
      - Include emergency egress, exits and evacuation routes
      - Location of meeting place in case of evacuation
      - Location of fire extinguishers, flammable storage cabinets, corrosive storage cabinets, and emergency eye wash and showers
      - Location of HM/HW (Hazardous Material/Hazardous Waste) storage areas
      - Emergency contact information
Section 13. Global Harmonizing System (GHS), Equivalent and Additional Labeling Systems

All hazardous materials used by the DoD Components shall be appropriately labeled in accordance with

- Global Harmonized System of Classification and Labeling of Chemicals, (GHS), United Nations, 2005

GHS Labels

The GHS Labels provides standardized hazard warning information to DoD personnel and is the preferred method for marking hazardous materials, including laboratory chemicals, within the Department of Defense and shall not be removed from the product or defaced.

LABEL ELEMENTS

GHS label elements have been standardized (identical with no variation) and are directly related to the hazard level. The three FOLLOWING elements, all hazard warnings, are required to be located (grouped) together on the label:

1. Hazard Pictograms- Hazard Pictograms have been standardized to convey health, physical and environmental hazard information, assigned to a GHS hazard class and category. The labels for hazardous chemicals must contain one or more of the nine pictograms that would pertain the hazards of the chemical. There are nine standardized pictograms from GHS that OSHA has included in their revised Hazard Communication Standard. These pictograms are required on hazard communication labeling. Employers are responsible for training personnel on the meanings and associated hazards of the pictograms not for determining which pictogram is to be used on which chemical. The chemical manufacturer, importer or distributor is responsible for determining which pictogram applies to the chemical(s). The other label elements are defined based on common definitions and/or principles.
2. Signal Words- Signal Words are used to emphasize hazards and indicate relative level of severity of the hazard assigned to a GHS hazard class and category. For labeling purposes the GHS system has chosen ONLY two words “Danger” and “Warning” to inform the chemical user of the severity of the hazard(s) of the chemical. The use of just two signal words has been put into place in order to simplify warnings and the labeling system. For labels that use the signal word “Warning” the severity of hazards of the chemicals are less than those chemicals classified with the signal word “Danger.”

There are only two signal words utilized on GHS labels:

“Danger” or “Warning”

3. Hazard Statements- Hazard Statements include appropriate statements for each GHS hazard on labels for products possessing more than one hazard. A hazard statement is supposed to give the chemical user additional information about the hazard that is depicted in the pictogram. Such as the “Flame” pictogram would be used on a label for a flammable liquid and the hazard statement for that flammable liquid may be “Keep away from fire, sparks and heated surfaces.” As stated earlier—hazard statements have been standardized and the chemical manufacturer, importer or distributor is responsible for using the appropriate hazard statement or statements on the label.

For more information and explanation of Hazard Statements please refer to Annex 3 of the GHS Purple Book

Examples of required hazard statements:

- “Keep away from fire, sparks and heated surfaces”
“Do not use in areas without adequate ventilation”

“Use CO2, dry chemical, or foam” (for fighting fires)

“Wear safety goggles and gloves”

The symbols, signal words, and hazard statements have all been assigned to specific hazard categories and classes, as appropriate. The prescribed symbols, signal words, hazard and precautionary statements can be readily selected from Annex 1 of the GHS Purple Book. These standardized elements are not subject to variation, and should appear on the GHS label as indicated in the GHS for each hazard category/class in the system. The use of symbols, signal words or hazard statements other than those that have been assigned to each of the GHS hazards would be contrary to harmonization.

Other GHS label elements include:

- **Precautionary Statements and Pictograms**: Measures to minimize or prevent adverse effects.
- **Product Identifier (ingredient disclosure)**: Name or number used for a hazardous product on a label or in the SDS.
- **Supplier identification**: The name, address and telephone number should be provided on the label.
- **Supplemental information**: non-harmonized information.

**Precautionary Statements and Pictograms**

Precautionary information supplements the hazard information by briefly providing measures to be taken to minimize or prevent adverse effects from physical, health or environmental hazards. First aid is included in precautionary information. The GHS label should include appropriate precautionary information. Annex 3 of the GHS Purple Book includes precautionary statements and pictograms that can be used on labels.

Annex 3 includes four types of precautionary statements covering: prevention, response in cases of accidental spillage or exposure, storage, and disposal. The precautionary statements have been linked to each GHS hazard statement and type of hazard. The goal is to promote consistent use of precautionary statements. Annex 3 is guidance and is expected to be further refined and developed over time.

**Product Identifier (Ingredient Disclosure)**

A product identifier should be used on a GHS label and it should match the product identifier used on the SDS. Where a substance or mixture is covered by the UN Model Regulations on the Transport of Dangerous Goods, the UN proper shipping name should also be used on the package.

The GHS label for a substance should include the chemical identity of the substance (name as determined by IUPAC, ISO, CAS or technical name). For mixtures/alloys, the label should include the chemical identities of all ingredients that contribute to acute toxicity, skin corrosion or serious eye damage, germ cell mutagenicity, carcinogenicity, reproductive toxicity, skin or respiratory sensitization, or Target Organ Systemic Toxicity (TOST), when these hazards appear on the label. Where a product is supplied exclusively for workplace use, the Competent Authority may give suppliers discretion to include chemical identities on the SDS, in lieu of including them on labels. The Competent Authority rules for confidential business information (CBI) take priority over the rules for product identification.

**Supplier Identification**

The name, address and telephone number of the manufacturer or supplier of the product should be provided on the label.

**Supplemental Information**
Supplemental label information is non-harmonized information on the container of a hazardous product that is not required or specified under the GHS. In some cases this information may be required by a Competent Authority or it may be additional information provided at the discretion of the manufacturer/distributor. The GHS provides guidance to ensure that supplemental information does not lead to wide variation in information or undermine the GHS information. Supplemental information may be used to provide further detail that does not contradict or cast doubt on the validity of the standardized hazard information. It also may be used to provide information about hazards not yet incorporated into the GHS. The labeler should have the option of providing supplementary information related to the hazard, such as physical state or route of exposure, with the hazard statement.
Equivalent Labels

DoD labeling shall be based on the information provided on the manufacturers’ SDS and labeled in accordance with the methodology described in the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Equivalent labels provide a means of labeling hazardous materials when:

- The commercial HAZCOM label is missing, damaged, obscured, illegible, or otherwise does not convey the information required by the above References.

- The hazardous material was purchased prior to the implementation of the new GHS Standard.

- The DoD Component is the manufacturer of the hazardous material and is therefore responsible for generating a HAZCOM label. Specific ingredients, composition, or properties may be protected for national security reasons. Labels for items with protected information shall contain unclassified information adequate to identify hazards and protect personnel, including name and address of DoD activity responsible for developing the SDS and DoD label. Copies of classified label information shall be provided to the appropriate DoD Component’s HAZCOM official.

- The hazardous material, excluding chemical laboratory settings, regulated in accordance with References, is repackaged or placed into a container that is not labeled with a HAZCOM label.

- The manufacturer’s label is in a language other than English on products locally purchased in a host nation.

Additional Labels

Other labels may be attached or affixed to the hazardous material to aid in the identification, storage, handling, transport, or disposal of the hazardous material. The DoD label can vary in color and size. Color DoD labels may be used. The size of the DoD label may be locally varied to fit the size and shape of the container being labeled. Local reproduction of labels is authorized. Examples of such labels include: inventory barcode labels, shipping labels, and hazard identification labels such as the National Fire Protection Association label. The use of such labels is authorized, provided:

- The label is not used as a replacement for, or instead of, the GHS Label.

- The label does not obscure any information found on the GHS Label.

- The information on the label does not conflict with the information found on the GHS Label.

In the event that additional labels must be applied to containers the following label systems may be utilized:

1. The chemical manufacturer’s label (this label or its information must appear on the container)

2. DD Form 2521/2522
3. According to NFPA 704 (in the event that a container is marked with a NFPA 704 label the chemical/product name will also be on the container).

Labels shall be affixed to the container and not cover the chemical manufacturer’s label or omit information from the label.

The SDS also contains all the information required for labeling. These labels may not be removed or defaced. Labels must be legible and prominently displayed on the container.

Containers into which hazardous materials are transferred (secondary containers) must be labeled with the information above. Blank labels can be obtained through supply catalogues (contact the Safety Office or Environmental Compliance for assistance). It is the responsibility of each employee to make sure that the containers of hazardous materials they are using have a label or to report those that do not to their supervisor.

Pipes and piping systems will be labeled identifying the contents and the hazard (e.g. “hot water,” “air-100 psig,” “sulfuric acid,” etc.). Arrows must be used to indicate the direction of flow.

Non-Hazardous Materials: Containers of non-hazardous materials (such as water) should be labeled to indicate the contents of the container.

**DD Form 2521/2522**

**DoD Hazardous Chemical Warning Label System**

DoD Instruction 6050.5 provides guidance on the DoD Hazard Communication Program and specifies that” The DoD label and data descriptors are to be used to meet the OSHA labeling requirements within the Department of Defense...”. DD Forms 2521 & 2522 are the standard labeling forms within the DoD. Although DoDI allows for color labels and variations in the size of the label it also states "DoD components shall not develop or use other workplace hazardous materials warning labels ".

These labels should be used for:

- hazardous materials manufactured by DoD,
- repackaged containers or breakdown quantities of hazardous chemicals/materials,
- marking tanks, piping, vats, or similar containers/vessels of hazardous chemicals when other means, such as placards, are not available
- unlabeled hazardous materials already in the inventory, i.e. if the item is not labeled or the original label is not legible,

Specific instructions are located in DoDI 6050.5h. This handbook establishes a standard label format and uniform labeling system throughout the Department of Defense (DoD) for identifying hazardous materials used by DoD personnel. It also provides an additional training resource to help DoD comply with the training and worker information requirements of the Occupational Safety and Health Administrations (OSHA) Hazard Communication Standard.

Chemical warning labels may include the following information:

- **Identity of the Chemical** - product name, chemical name, or trade name
- **Signal Word** - telling you the degree of hazard, such as “Caution!”,” Warning!” or “Danger”
- **Hazard Statement** - telling you the major hazards you face, such as: “extremely flammable” “explosive”, “corrosive”, or “harmful if inhaled”
- **Precautions** - what to do to avoid injury or illness, such as: “ acute breathing vapors” or “wash thoroughly after handling”
- **Instructions in Case of Exposure** - first aid information telling you what to do if you're exposed to a chemical.
- **Fire, Spill or Leak Instructions** - how to put out or control fires and clean up leaks or spills.
- **Handling and Storage Instructions** - special procedures for handling and storing chemical containers.
- **Antidotes** - measures that can be used by medical personnel to counteract the effects of chemical exposure.
- **Notes to Physician** - information for physician in case someone is exposed to a chemical.
- **Disposal instructions** - special disposal instructions may be provided on the label; however, follow state and local disposal requirements.

These forms are available using American Medical Department (AMEDD) Forms on WSMR. The larger form 2252 and smaller form 2251 provide descriptors that meet all OSHA requirements. Specific instructions on completing these labels can be found in DoDI 6050.5h

### NFPA 704 Hazard Identification System

The National Fire Protection Agency (NFPA) has specified a system for identifying the hazards associated with chemicals. The hazard identification symbol is a color coded array of four numbers or letters arranged in a diamond shape. This symbol appears on the label of many chemicals acquired from commercial vendors.

![Diamond Symbol]

The **blue diamond**, appearing on the left side of the label, conveys **Health Hazard** information.

A number from 0 to 4 appears in the blue diamond indicating the degree of the hazard. The higher the number the higher the hazard, as follows:

- 0-No hazard
- 1-Can cause irritation if not treated
- 2-Can cause injury: Requires prompt treatment
- 3-Can cause serious injury despite medical treatment
- 4-Can cause death or major injury despite medical treatment

The **red diamond**, appearing at the top of the label, conveys **Flammability Hazard** information.

Again, the numbers 0 to 4 are used to rate the flammability hazard as follows:

- 0-No hazard
- 1-Ignites after considerable heating
2-Ignites if moderately heated
3-Can be ignited at all normal temperatures
4-Very flammable gases or very volatile flammable liquid

The **yellow diamond**, appearing on the right side of the label, conveys **Reactivity Hazard** information.

The numbers 0 to 4 are used to rank reactivity hazards as follows:
0-Normally stable. Not reactive with water
1-Normally stable. Unstable at high temperatures and pressure. Reacts with water
2-Normally unstable but will not detonate
3-Can detonate or explode but requires strong initiating force or heating under confinement
4-Readily detonates or explodes

The **white diamond**, appearing at the bottom on the label, conveys **Special Hazard** information. This information is conveyed by the use of symbols which represent the special hazard. Three of the common symbols are:

- **W**: denotes the material is water reactive
- **OX**: denotes an oxidizing agent
- **COR**: denotes corrosive
Section 14. Flammable Storage on WSMR

Flammables and combustibles must be stored in a NFPA, OSHA, FM, U or UL Listed flammable fire cabinet when they meet the requirements below:

a. A flammable item is defined as any liquid item or mixture with a flash point below 100°F (37.8 °Celsius).

b. Combustibles are defined as liquid items with a flash point above 100°F (37.8 °Celsius) and below 200°F (93.4 °Celsius).

A fire area is defined as an area of a building separated from the remainder of the building by walls, doors, windows, etc. having a fire resistance of at least 1 hour.

There shall be no more than three (3) flammable cabinets in each fire area.

A total maximum quantity of 25 gallons may be stored in each cabinet but not to exceed the listed maximum cabinet quantity. The Fire Chief may grant a written exemption to increase the quantities to 60 gallons maximum per cabinet.

This only applies to materials when they are stored in quantities of more than 1.3 gallons (166.4 ounces, 5 liters) total.

The storage of any flammable or combustible liquid shall not physically obstruct a means of egress from the building or area.

All Fire Cabinets will be marked conspicuously with the words

**FLAMMABLE - KEEP FIRE AWAY**

Containers of flammable or combustible liquids will remain tightly sealed except when transferred, poured or applied. Remove only the portion of liquid in the storage container required to accomplish a particular job.

Warehouses and areas where in excess of 180 gallons of flammable and combustible materials are stored must meet specific design criteria to comply with material storage requirements, construction requirements, and sprinkler system requirements.

These requirements have been derived from OSHA 29 CFR 1910.106, NFPA 30, 230, Mil handbook 1008C and WSMR Reg. 420-3.
Appendix A
Hazard Communication Program, WSMR, NM
Site-Specific Information

The organizational director or assigned responsible party for an area of supervision shall complete this section to make the Hazard Communication Program site specific. This person will ensure that the Hazard Communication Program is implemented. This person will ensure that the hazardous material inventory is conducted annually (preferably every January) and whenever a new chemical is acquired. This person will also ensure that the Site Specific HAZCOM Program is reviewed and updated annually and ensure that SDSs are available and accessible to all employees.

Each employee shall be instructed in the following areas with regard to the inventoried hazardous material to which they are to be exposed:

a. The chemical and common names of the hazardous material.
b. The location of the hazardous material and the operations involving them in their work area.
c. The proper and safe handling of the hazardous materials.
d. The location of the HAZCOM program, SDSs, and the hazardous material inventory.
e. Methods used to detect the presence or release of hazardous materials.
f. The physical and health hazards of the materials in their work area.
g. Methods to protect them from exposure to hazardous materials.
h. Appropriate emergency procedures.
i. An explanation of the GHS chemical labeling system.
j. Where and how to obtain SDS’s.

Date: _______________ Office Symbol __________________________

Building ___________ Area/Room Number ________________________________

Responsible Party ______________________________________________________

Location of SDS binder (building number, room number and location description- i.e main hallway )
____________________________________________________________________________________________
____________________________________________________________________________________________

Location of Training Records (building number, room number and location description- i.e. filing cabinet)
____________________________________________________________________________________________
____________________________________________________________________________________________

Location of Past Records (building number, room number and location description- i.e filing cabinet)
____________________________________________________________________________________________
____________________________________________________________________________________________

Emergency Procedures (describe)
____________________________________________________________________________________________
Location of appropriate health care provider

(For Fixed Locations)
Location of eyewash station (description)

Location of emergency shower (description)

Responsible Party:

Printed Name          Signature          Date
Appendix B
Hazard Communication Program, WSMR NM
Training Record

This form (or similar) may be used to document HAZCOM training.

If training records are maintained elsewhere, acknowledge by signing here, the remaining portions of this Appendix will not need to be completed.

Responsible Party:

_________________________  ______________________  ________________
Printed Name                Signature                 Date

I, the undersigned, acknowledge that I was provided the following:
I was given adequate time to ask questions about my particular job activities and how I can best conduct them in compliance with applicable hazardous communication and hazardous waste regulations.

I understand the following:

a. I have the right to be informed of the hazardous materials and hazards in my workplace upon initial assignment and whenever a new chemical is introduced into my workplace.
b. I understand the characteristics and physical hazards of the hazardous materials in my workplace.
c. I have access to SDS for each hazardous material to which I am, have been, or may be exposed to in my workplace.
d. I have access to the Hazard Communication Program including site specific information for my workplace.
e. I understand the adverse health effects of each listed hazardous material with which I work in my workplace.

I acknowledge that I have been instructed in the following areas with regard to the inventoried hazardous material to which I am exposed:

a. The chemical and common names of the hazardous material.
b. The location of the hazardous material and the operations involving them in my work area.
c. The proper and safe handling of the hazardous materials.
d. The location of the HAZCOM program, SDSs, and the hazardous material inventory.
e. Methods used to detect the presence or release of hazardous materials.
f. The physical and health hazards of the materials in my work area.
g. Methods to protect myself from exposure to hazardous materials.
h. Appropriate emergency procedures.
i. An explanation of the GHS chemical labeling system.

j. Where and how to obtain SDS’s.

<table>
<thead>
<tr>
<th>Printed Name:</th>
<th>Signature:</th>
<th>Organization Symbol:</th>
<th>Date:</th>
<th>Trainer’s Initials:</th>
</tr>
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</tbody>
</table>
APPENDIX C
Hazard Communication Program
Annual Inventory Information

This form is used to document the annual (preferably every January) hazardous material inventory to ensure that the Hazard Communication Program is implemented in its entirety.

The organizational director or assigned responsible party for an area of supervision shall complete this section to make the Hazard Communication Program Annual Inventory complete. This information will ensure that the Hazard Communication Program is comprehensively implemented by ensuring that the hazardous material inventory is conducted annually (preferably January of each year) and must be updated and maintained as SDSs are updated, chemicals are substituted or no longer used or new chemicals are brought on site or whenever a new chemical is acquired.

Date of Inventory: __________ Office Symbol ________________________

Building ________________ Area/Room Number ________________________

Responsible Party ______________________________________________________

Location of SDS (building number, room number and location description- i.e. filing cabinet)
_____________________________________________________________________
_____________________________________________________________________

Location of Hazardous Material Inventory (building number, room number and location description- i.e. filing cabinet)
_____________________________________________________________________
_____________________________________________________________________

I acknowledge that I have inventoried the hazardous material in the above location.

Responsible Party:

Printed Name: ___________________ Signature: ___________________ Date: __________
Appendix H
MEMORANDUM FOR RECORD

Re: __________________________ SSN _____ DOB ____________

Supervisor ________________________ Time In _____ Time Out _____

The following evaluations were completed;

[ ] Hearing Conservation [ ] Confined Spaces [ ] Ionizing Radiation
[ ] Ammo/Explosive Handler [ ] Respirator Use [ ] Silica
[ ] Climate Chamber [ ] Commercial Driver [ ] Waste water
[ ] Other ______________________________________________________

Evaluated for work as __________________________. This employee was found to be,

[ ] Fully qualified without restriction to continue in current job title and position for ___ months.

[ ] Temporarily does not meet standards to work in current job title and position. Expected time to resume full duty is ________________________

[ ] Re-evaluation required on _____

[ ] Does not meet standards to work in current job title and position.

Competent Medical Authority (CMA)

CMA Signature __________________________

I have had all my questions answered regarding this evaluation and understand the results of this evaluation. My top health goals have been reviewed with me and all my questions regarding a plan to address these goals have been answered. The proper use of PPE and job safety has been reviewed with me. I understand that if, in the future, I have any additional questions I can make an appointment to discuss these issues with McAfee USAHC staff.

Printed Name __________________________

Signature _________________________ Date _________
Appendix I
RECORD OF INJURY

SECTION I - Patient Information

Please Print
(Completed by supervisor or patient and given to medical treatment facility. May also be completed by medical treatment facility.)

1a. Last Name (person injured)  b. First Name  c. Middle Initial

2. Grade/Rank  3. Last 5 of Social Security Number  4. Job Title/MOS

5. Name of Unit/Organization & MACOM  6. Unit Address  7. Office Symbol

8. Date of Injury
   a. Day  b. Month  c. Year  c. Hour

11. Describe how injury occurred (state what was being performed and what caused the injury).

12. Describe where injury happened and location (indicate bldg number, street, landmarks, etc.)

SECTION II - Medical Report
(To be completed by medical attendant or physician)


2. Disposition (check one)
   a. Return to regular duty  b. Return to light duty  c. Hospitalize  d. Private Doctor
   e. Send home or to quarters  f. Follow-up Treatment Required? POPUP1 if yes, when:

3. Estimated days absent beyond date of injury

4. Estimated days on light duty

5. Name of medical officer or attendant

SECTION III - Supervisor Accident Investigation
(To be completed by supervisor/leader)

Possible Contributing Factors

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Personal Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extreme weather, environment</td>
<td>1. Failure to plan, assess risk</td>
</tr>
<tr>
<td>2. Hazardous materials, processes</td>
<td>2. Lack of skill, knowledge, training</td>
</tr>
<tr>
<td>3. Inadequate safeguards, equipment</td>
<td>3. Failure of tools, machinery, vehicle</td>
</tr>
<tr>
<td>4. Inadequate personal protective equipment</td>
<td>4. Physical fitness, impairment</td>
</tr>
<tr>
<td>5. Inadequate personal protective equipment</td>
<td>5. Behavior, horseplay</td>
</tr>
<tr>
<td>6. Inadequate personal protective equipment</td>
<td>6. Failure to use PPE properly</td>
</tr>
<tr>
<td>7. Poor design, engineering controls</td>
<td>7. Working alone, w/o assistance</td>
</tr>
<tr>
<td>8. Unusual, cramped working conditions</td>
<td>8. Housekeeping, hygiene</td>
</tr>
<tr>
<td>9. Unusual, cramped working conditions</td>
<td>9. Using wrong tools for the job</td>
</tr>
<tr>
<td>10. Unusual, cramped working conditions</td>
<td>10. Awkward body position/placement</td>
</tr>
</tbody>
</table>

1. Describe unsafe acts or condition that caused this accident

IMNE Form 1236-R-E. 1 May 07. (previous editions of SSB Fm 1236 may be used until exhausted)
2. Corrective action needed to prevent recurrence of this accident (e.g., engineering, enforcement, or education controls)

3. Supervisor/Leader signature

4. Date

SECTION IV - Safety Office Disposition  (To be delivered to and completed by servicing Safety Office)

- Army Recordable (AR385-40)
- Non-Recordable
- Military
- Civilian
- Contractor
- 29 CFR 1904 Recordable Injury (i.e., OSHA 300 Log) (Army Civilian)
- Dependent
- Visitor
- Other

Safety Office Signature

Date

Additional sheets attached

Data Required by the Privacy Act of 1974 (5 U.S.C. 552a)

Authority: title 29 Code of Federal Regulations, Part 1980.86(c) and Executive Order 12196
Prescribing Directives: AR 385-40 and APGR 385-4
Principal Purpose: Record occupationally-related injuries and illnesses for accident classification and prevention purposes.
Routine Uses: Used by safety personnel to record occupational injury and illness experience and maintain accurate statistics. The social security number (SSN) is used to identify the individual to prevent possible duplication of accident reporting.
 Disclosure and Effect on Individual Not Providing this Information: disclosure is voluntary. However, since maintenance of accurate statistical data is essential to successful compliance with these mandates, failure to provide the SSN will result in it being obtained from other sources so as to ensure that all data being provided are accurately recorded.
WSMR Accident Investigation Form

1. WHO was injured or involved?

Employee Name: ________________________________________

Job Title: _______________________________________________

Organization: ____________________ Work Phone: ____________

Date of Birth: ____________________ Gender: _____________

2. DID the accident involve a Vehicle?

If yes, place an X after choice:

Army Motor Vehicle_____ Privately Owned Vehicle ________

Contractor Owned Vehicle ______ Army Tracked Vehicle ______

Motorcycle_______ Other: (Indicate type) ___________________

Tag #_________________ Year: ______________ Make: __________

Model: __________________

If yes, what is the Estimated Cost of Damage (ECOD): __________

3. WHEN did accident/incident occur?

Date: ____________________ Time: ____________________

4. WHERE did the accident/incident occur?

Location: ____________________ ____________________________

5. WHAT happened?

DESCRIPTION OF ACCIDENT (Describe sequence of events prior to, during, and immediately after the accident:

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
6. Did the employee receive medical treatment? Describe treatment:

_____________________________________________________________________

_____________________________________________________________________

7. Did the employee lose any work days due to this accident/injury?____________________

For what reason? ___________________________________________________________

Total or estimate lost work days: ____________________

8. Was the employee placed on work restriction by the medical professional? Describe:

_____________________________________________________________________

_____________________________________________________________________

9. Medical Professional Name and Facility name:

_____________________________________________________________________

_____________________________________________________________________
10. Root Cause- Indirect Cause(s) - Unsafe conditions and/or behaviors at any level of the organization; & justification, (Highlight or enter X all that apply using highlighter tool located at top of page):

<table>
<thead>
<tr>
<th>HUMAN</th>
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<tbody>
<tr>
<td>H01  Inadequate planning - Failed to properly organize or coordinate. Improper modification of the plan during execution.</td>
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<tr>
<td>H02  Improperly/failed to lock/block/secure, (for example, load).</td>
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<tr>
<td>H03  Inadequate inspection/check of vehicle or equipment (before, during, after operations check). Failed to use the appropriate checklist or TM to perform the inspection.</td>
</tr>
<tr>
<td>H04  Improper application of safety equipment, device, guard, sign, signal, or PPE. Failed to adhere to posted warning signs/signals/guards. Failed to use required safety equipment, device, guard, sign, signal or PPE.</td>
</tr>
<tr>
<td>H05  Operating while fatigued when not necessary/directed.</td>
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<td>H06  Improper use of equipment - Did not use equipment when required. Used right equipment improperly. Used wrong equipment.</td>
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<tr>
<td>H07  Improper lifting - Used incorrect lifting technique. Failed to use appropriate assistance.</td>
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<tr>
<td>H08  Failed to take appropriate precautions for adverse environmental conditions (rain, haze, fog, snow, ice, reduced visibility).</td>
</tr>
<tr>
<td>H10  Improperly walked, ran, or climbed.</td>
</tr>
<tr>
<td>H11  Failed to stay alert, remain awake, or attentive to what was happening (situational awareness to environment, conditions, or operations). Failed to pay attention. Improperly divided attention. Improperly monitored. Improperly scanned. Fell asleep.</td>
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<tr>
<td>H12  Failed to ensure adequate clearance/space (enough room) for operation.</td>
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<td>H13  Misjudged clearance (improperly estimated/evaluated).</td>
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<tr>
<td>H14  Improper weapons and ammunition handling - Improper sighting, aiming, firing, throwing. Unauthorized use or handling. Improper carrying, lifting, transporting. Improper clearing, disarming, unloading. Improper assembling, cleaning, disassembling. Improper disposal or turn-in.</td>
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<tr>
<td>H16  Improperly pulled or pushed equipment or material.</td>
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<td>H17  Failed to firmly grip/hold equipment/material.</td>
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<td>H18  Inadequate improvising/troubleshooting.</td>
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<td>H19  Inadequate crew coordination/communication. Improper actions sequence - improper sequencing or timing of actions with other crewmembers; for example, driver initiated vehicle movement before receiving clearance from ground guide or senior occupant. Failure to offer assistance, information, or warning, (for example, driver failed to warn other crewmembers of impending hazard (rollover)). Lack of positive communication, (for example, transmission, acknowledgement, or confirmation using standard terminology with specific qualifiers); (for example, tank commander failing to confirm crewmembers were clear before traversing turret). Failure to announce decision/action that affects other crewmembers’ duties, (for example, occupant failed to announce to the driver their decision to dismount the vehicle during a momentary halt). Failed to direct/request assistance from other crewmembers, (for example, although neither track command (TC) nor driver could see, the TC failed to direct a crewmember to dismount and act as a ground guide).</td>
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<td>H20  Improper assembly.</td>
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<td>H21  Under the influence of drugs or alcohol.</td>
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<tr>
<th>VEHICLE/EQUIPMENT SPECIFIC</th>
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<tr>
<td>H40  Excessive speed. Exceeding the posted speed limits. Excessive speed for conditions.</td>
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<tr>
<td><strong>LEADER/SUPERVISORY MISTAKES</strong></td>
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<tr>
<td>MATERIAL</td>
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<tr>
<td>M01- Overheated/burned/melted. Key words: blister, boil, carbonize, char, flame, fuse, or glaze. Excessive heat caused materiel or equipment to fail or malfunction.</td>
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<tr>
<td>M02- Froze (temperature). Key words: congeal or solidify. Excessive cold caused materiel/equipment to fail/malfunction.</td>
</tr>
<tr>
<td>M03- Obstructed/pinched/clogged. Key words: block, crimp, or restrict. Function of materiel or equipment was hindered or completely cut off by an obstacle.</td>
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<tr>
<td>M04- Materiel failures/malfunctions— Vibrated. Key words: oscillate or shake. Side-to-side or forward-and-backward movement of materiel or equipment caused it to fail or malfunction.</td>
</tr>
<tr>
<td>M05- Rubbed/worn/frayed. Key words: abrade, chafe, fret, groove, score, or scrape. Friction-producing movement was applied to materiel or equipment to such and extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M06- Corroded/rusted/pitted. Key words: erode or oxidize. Gradual wearing away (usually by chemical action) of materiel or equipment to such an extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M07- Overpressured/burst. Key words: balloon, bulge, explode, rupture, or swell. Steady or abrupt force was applied over the surface of materiel or equipment to such an extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M08- Pulled/stretchened. Key word: elongate. Steady or abrupt force applied to materiel or equipment caused it to move toward the force, in whole or in part, to such an extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M09- Twisted/torqued. Key word: turn. Steady or abrupt application of twisted forces caused materiel or equipment to fail or malfunction.</td>
</tr>
<tr>
<td>M10- Compressed/hit/punctured. Key words: chip, collapse, crush, dent, nick, pinch, press. Steady or abrupt application of force that presses/impacts materiel or equipment causing it to fail or malfunction.</td>
</tr>
<tr>
<td>M11- Bent/warped. Key words: bow or buckle. Changing materiel or equipment from an original straight, level, or even condition through the application of force to such an extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M12- Sheared/cut. Key words: chop or sever. Failure or malfunction was caused by steady or abrupt force applied to materiel, resulting in a break with the two parts sliding parallel to each other in different directions.</td>
</tr>
<tr>
<td>M13- Decayed/decomposed. Key words: mildew, rot, or spoil. Chemical or biological action resulted in a gradual decline in materiel or equipment strength to such an extent that it failed or malfunctioned.</td>
</tr>
<tr>
<td>M14- Electric current action. Key words: short, arc, fusing, grounding, amperage, voltage, surge. Action of electric current caused materiel or equipment to fail or malfunction.</td>
</tr>
<tr>
<td>M15- No defect but does not meet the mission requirements.</td>
</tr>
<tr>
<td>M97- Insufficient information to determine type of failure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENVIRONMENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>E01- Illumination. Key words: bright, dark, dim, glare, or light. Too much or too little light that was a negative influence on vision.</td>
</tr>
<tr>
<td>E02- Precipitation. Key words: condensation, fog, frost, hail, ice, mist, rain, sleet, or snow. Climatic precipitation that has a negative influence on human or machine performance.</td>
</tr>
<tr>
<td>E03- Contaminants. Key words: carbon dioxide, carbon monoxide, chemicals, dust, foreign/debris, fumes, gases, impurities, mists, smog, smoke, toxic materials, or vapors. Natural or manmade elements that render material or the environment unsatisfactory for human or machine use and have a negative influence on performance.</td>
</tr>
<tr>
<td>E04</td>
</tr>
<tr>
<td>E05</td>
</tr>
<tr>
<td>E06</td>
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<td>E07</td>
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<td>E08</td>
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<td>E09</td>
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<td>E13</td>
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<td>E97</td>
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<tr>
<td>E98</td>
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<tr>
<td>E99</td>
</tr>
</tbody>
</table>

11. Why was mistake made? (Place x next to all that apply)

| LEADER (Not ready, willing, or able to enforce standards) | TRAINING (Insufficient in Content/Amount) | STDS/PROCEDURES (Not clear/Not practical) | SUPPORT (Shortcomings in type, capability, amount or condition of equip/supplies/services/facilities) | INDIVIDUAL (Mistake due to own personal factors) |
| Direct Supervision | School | AR | Equip/Materiel Improperly Designed | Poor/Bad Attitude |
| Unit Command Supervision | Unit | TM | Equip/Materiel Not Provided | Overconfident |
12. Corrective Actions (To eliminate or reduce the hazardous conditions/unsafe behaviors that directly caused the accident.)

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

13. Report prepared by:

Name: ____________________________ Title: ____________________________

Office Symbol: ____________________________ Email: ____________________________

Phone Number: ____________________________ Date: ____________________________
Appendix K
<table>
<thead>
<tr>
<th>Hazard Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATION</strong></td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
</tr>
<tr>
<td><strong>Hazard</strong></td>
</tr>
<tr>
<td><strong>Potential Energy</strong></td>
</tr>
<tr>
<td><strong>Cause</strong></td>
</tr>
<tr>
<td><strong>Stimuli</strong></td>
</tr>
<tr>
<td><strong>RAC</strong></td>
</tr>
<tr>
<td><strong>Controlled</strong></td>
</tr>
<tr>
<td><strong>Eliminated</strong></td>
</tr>
<tr>
<td><strong>Countermeasure</strong></td>
</tr>
<tr>
<td><strong>Hazard Controls</strong></td>
</tr>
<tr>
<td><strong>Effect</strong></td>
</tr>
<tr>
<td><strong>Mishap Results</strong></td>
</tr>
<tr>
<td><strong>Reviewed by</strong></td>
</tr>
<tr>
<td><strong>Signature</strong></td>
</tr>
<tr>
<td><strong>Date</strong></td>
</tr>
</tbody>
</table>
### Deliberate Risk Assessment Worksheet

1. **Mission/Task Description**

2. **Date (00/MM/YYYY)**

3. **Prepared By**
   - a. Name (Last, First Middle Initial)
   - b. Rank/Grade
   - c. Duty Title/Position
   - d. Unit
   - e. Work Email
   - f. Telephone (OSN/Commercial (Include Area Code))
   - g. UIC/CIN (as required)
   - h. Training Support/Lesson Plan or OPORD (as required)
   - i. Signature of Preparer

Five steps of Risk Management:
1. Identify the hazards
2. Assess the hazards
3. Develop controls & make decisions
4. Implement controls
5. Supervise and evaluate (Step numbers not equal to numbered items on form)

<table>
<thead>
<tr>
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<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>How:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Who:</td>
<td></td>
</tr>
</tbody>
</table>

10. **Overall Residual Risk Level (All controls implemented):**

   - Extremely High
   - High
   - Medium
   - Low

11. **Overall Supervision Plan and Recommended Course of Action**

12. **Approval or Disapproval of Mission or Task**
   - a. Name (Last, First, Middle Initial)
   - b. Rank/Grade
   - c. Duty Title/Position
   - d. Signature of Approval Authority
e. Additional Guidance:
<table>
<thead>
<tr>
<th>Risk Assessment Matrix</th>
<th>Probability (expected frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequent: Continuous, regular, or inevitable occurrences</td>
</tr>
<tr>
<td><strong>Severity</strong> (expected consequence)</td>
<td></td>
</tr>
<tr>
<td>Catastrophic: Mission failure, unit readiness eliminated; death, unacceptable loss or damage</td>
<td>I</td>
</tr>
<tr>
<td>Critical: Significantly degraded unit readiness or mission capability; severe injury, illness, loss or damage</td>
<td>II</td>
</tr>
<tr>
<td>Moderate: Somewhat degraded unit readiness or mission capability; minor injury, illness, loss, or damage</td>
<td>III</td>
</tr>
<tr>
<td>Negligible: Little or no impact to unit readiness or mission capability; minimal injury, loss, or damage</td>
<td>IV</td>
</tr>
</tbody>
</table>

**Legend:**
- EH - Extremely High Risk
- H - High Risk
- M - Medium Risk
- L - Low Risk

13. **RISK ASSESSMENT REVIEW** (Required when assessment applies to ongoing operations or activities)

<table>
<thead>
<tr>
<th>a. Date</th>
<th>b. Last Name</th>
<th>c. Rank/Grade</th>
<th>d. Duty Title/Position</th>
<th>e. Signature of Reviewer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

14. **FEEDBACK AND LESSONS LEARNED**

15. **ADDITIONAL COMMENTS OR REMARKS**
Instructions for Completing DD Form 2977, "Deliberate Risk Assessment Worksheet"

1. Mission/Task Description: Briefly describe the overall Mission or Task for which the deliberate risk assessment is being conducted.

2. Date (00/MM/YYY): Self Explanatory.

3. Prepared By: Information provided by the individual conducting the deliberate risk assessment for the operation or training.

Legend: UIC = Unit Identification Code; CIN = Course ID Number; OPORD = operation order; DSN = defense switched network; COMM = commercial

4. Sub-task/Sub-Step of Mission/Task: Briefly describe all subtasks or sub steps that warrant risk management.


6. Initial Risk Level: Determine probability and severity. Using the risk assessment matrix (page 3), determine level of risk for each hazard specified, probability, severity and associated Risk Level; enter level into column.

7. Control: Enter risk mitigation resources/controls identified to abate or reduce risk relevant to the hazard identified in block 5.

8. How to Implement / Who Will Implement: Briefly describe the means of employment for each control (i.e., OPORD, briefing, rehearsal) and the name of the individual unit or office that has primary responsibility for control implementation.

9. Residual Risk Level: After controls are implemented, determine resulting probability, severity, and residual risk level.

10. Overall Risk After Controls are implemented: Assign an overall residual risk level. This is equal to or greater than the highest residual risk level (from block 9).

11. Supervision Plan and Recommended Course of Action: Completed by preparer.

Identify specific tasks and levels of responsibility for supervisory personnel and provide the decision authority with a recommend course of action for approval or disapproval based upon the overall risk assessment.

12. Approval/Disapproval of Mission/Task: Risk approval authority approves or disapproves the mission or task based on the overall risk assessment, including controls, residual risk level, and supervision plan.

13. Risk Assessment Review: Should be conducted on a regular basis. Reviewers should have sufficient oversight of the mission or activity and controls to provide valid input on changes or adjustments needed. If the residual risk rises above the level already approved, operations should cease until the appropriate approval authority is contacted and approves continued operations.

14. Feedback and Lessons Learned: Provide specific input on the effectiveness of risk controls and their contribution to mission success or failure. Include recommendations for new or revised controls, practicable solutions, or alternate actions. Submit and brief valid lessons learned as necessary to persons affected.

15. Additional Comments or Remarks: Preparer or approval authority provides any additional comments, remarks, or information to support the integration of risk management.

Additional Guidance: Blocks 4-9 may be reproduced as necessary for processing of all subtasks/ sub steps of the mission/task. The addition and subtraction buttons are designed to enable users to accomplish this task.
Appendix L
WHITE SANDS MISSILE RANGE's CONFINED SPACE ENTRY PERMIT

<table>
<thead>
<tr>
<th>COMPLETED REQUIREMENTS</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock Out/De-energize</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line(s) Broken/Capped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purge-Flash &amp; Vent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secure Area (Post &amp; Flag)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breathing Apparatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resuscitator-Inhalator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standby Safety Personnel</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPLETED REQUIREMENTS</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Body Harness w/O Ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Escape/Retrieval</td>
<td></td>
<td></td>
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<tr>
<td>Lifelines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Extinguishers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting (Explosive Proof)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective Clothing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respirators (Air Purifying)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buring &amp; Welding Permit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Items that do not apply enter "N/A" in the blank. Record continuous monitoring every (2) HOURS.
Short term exposure limit: Employee can work in the area up to (15) MINUTES @ (8) HOURS.
Time Weighted Average: Employee can work in area up to (8) HOURS

<table>
<thead>
<tr>
<th>% of Oxygen</th>
<th>Permissible Entry Level 19.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- 23.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower Flammable Limit</th>
<th>Under 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide</td>
<td>35 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GAS TESTER'S NAME</th>
<th>TYPE &amp; MODEL OF INSTRUMENT USED</th>
<th>SERIAL NUMBER</th>
<th>UNIT NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EMERGENCY PHONE NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMBULANCE 911</td>
</tr>
<tr>
<td>FIRE DEPARTMENT(ADMIN) 678-4193</td>
</tr>
<tr>
<td>SAFETY OFFICE 678-1211</td>
</tr>
<tr>
<td>INDUSTRIAL HYGIENE 678-4025</td>
</tr>
</tbody>
</table>

STEWNS-NRES-F-22 01 AUG 96
WHITE SANDS MISSILE RANGE
FALL PROTECTION PROGRAM/HANDBOOK

01 November 2015
## Table of Contents

<table>
<thead>
<tr>
<th>SECTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purpose</td>
<td>3</td>
</tr>
<tr>
<td>2. Scope</td>
<td>3</td>
</tr>
<tr>
<td>3. References</td>
<td>3</td>
</tr>
<tr>
<td>4. Responsibilities</td>
<td>4</td>
</tr>
<tr>
<td>5. Information and Training</td>
<td>7</td>
</tr>
<tr>
<td>6. Fall Hazards</td>
<td>10</td>
</tr>
<tr>
<td>7. Engineering Controls</td>
<td>11</td>
</tr>
<tr>
<td>8. Fall Protection Personal Protective Equipment</td>
<td>13</td>
</tr>
<tr>
<td>9. Roofing</td>
<td>16</td>
</tr>
<tr>
<td>10. Scaffolds</td>
<td>18</td>
</tr>
<tr>
<td>11. Aerial Lifts</td>
<td>21</td>
</tr>
<tr>
<td>12. Portable Ladders</td>
<td>22</td>
</tr>
<tr>
<td>13. Fixed Ladders and Stairs</td>
<td>25</td>
</tr>
<tr>
<td>14. Walking and Working Surfaces</td>
<td>27</td>
</tr>
<tr>
<td>15. Tower Climbing</td>
<td>28</td>
</tr>
</tbody>
</table>

### APPENDICIES

A. Duties Requiring a Competent Person                                  | 34   |
B. Duties Requiring a Qualified Person                                  | 35   |
C. Glossary of Terms                                                    | 36   |
1. PURPOSE

a. This program/handbook is intended to provide the information required for the implementation of the White Sands Missile Range (WSMR) Fall Protection Program.

b. The program/handbook is also intended to establish a means to analyze elevated work tasks and determine appropriate personal protection against falls in accordance with Occupational Safety and Health Administration (OSHA) regulations and Army regulations.

c. Fall hazards must first be controlled through engineering controls if feasible. When engineering controls are not feasible, then personal fall arrest systems, administrative controls and training must be instituted.

1.0  2. SCOPE

a. The White Sands Missile Range Fall Protection Program shall apply to all employees who are exposed to unprotected sides or edges of surfaces that present a falling hazard of four feet or more to a lower level. Employees will not be required, nor allowed to perform any duties which require the employee to get closer than six feet to an unprotected edge, platform, and walkway of any building or utilize elevated equipment unless the employee is properly secured from falling.

b. Exceptions to this requirement include the working sides of loading docks and exposed perimeters of theatre stages. Employees may use portable ladders without fall protection equipment up to sixty feet. Employees may work on scaffolds and aerial lifts up to 6 feet in height and on the edge of an excavation up to 6 feet in depth without fall protection.

c. Additionally, the Fall Protection Program shall apply to all employees in order to minimize slips, trips and falls on the same elevation. All employees shall control fall hazards in their work area by maintaining good housekeeping and shall report conditions that may lead to slips, trips and falls to the appropriate facilities maintenance unit.

d. This program applies to all WSMR civilian, military, contractor, and tenant personnel. Contractors for White Sands Missile Range are required to comply with this document, as a minimum, and all applicable OSHA regulations, and shall have their own fall protection program. Contractor and tenant organizations are responsible for conducting the Fall Protection training of their personnel.

2.0  3. REFERENCES

i. 29 CFR 1926 Subpart M, Fall Protection

j. 29 CFR 1910 Subpart D, Walking and Working Surfaces

3.0 4. RESPONSIBILITIES

a. Directors are responsible for implementing the Fall Protection Program in accordance with this document. They are ultimately responsible for ensuring individual supervisory areas are in compliance with the program by the following:

1) Designate and empower individuals who will act as Competent and/or Qualified Persons who will be responsible for the preparation and implementation of the Fall Protection Program (See Appendix A for Specific Duties of Competent Persons and Duties of Qualified Persons).

2) Ensure that employees who will act as Competent and/or Qualified Persons are adequately trained and/or qualified.

3) Provide administrative and financial support for this program within the organization under his/her control.

4) Ensure the Fall Protection Program is implemented and maintained within the organization under his/her control.

5) Ensure a portable ladder inspection program is implemented and maintained within the organization under his/her control.

6) Ensure a fall protection equipment program is implemented and maintained within the organization under his/her control.

b. Supervisors must ensure that all requirements and procedures outlined in the Fall Protection Program are appropriate to the individual work areas under their supervision and are carried out properly by the following:

1) Ensure that employees are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards associated with job tasks.

2) Coordinate the correction of fall hazards brought to their attention by employees.

3) Complete an injury report and produce any additional documentation needed to investigate and work related injuries and illnesses.
4) Ensure that a pre-climb Hazard Analysis has been completed prior to exposing personnel to a fall hazard.

5) Ensure that a pre-climb inspection has been conducted prior to exposing personnel to a fall hazard and climbing a structure, in accordance with Section 15 of this document.

6) Ensure a portable ladder and other climbing equipment inspection program is implemented and maintained within the department under his/her control. Ensure tags are placed on the ladders or other climbing equipment and is inspected monthly and annotated on the tag and inspected prior to usage.

7) Ensure a fall protection equipment inspection program is implemented and maintained within the department under his/her control. Ensure tags are placed on the fall protection equipment and is inspected monthly and annotated on the tag and inspected prior to usage.

c. Employees

1) Comply with the Fall Protection Program and any further safety recommendation provided by the supervisor and/or the Safety Office regarding fall protection.

2) Complete fall protection training requirements and request further instruction if unclear.

3) Conduct assigned tasks in a safe manner and wear all assigned personal protection equipment.

4) Report any unsafe or unhealthy work conditions and job related injuries or illnesses to the supervisor immediately.

5) Review pre-climb Hazard Analysis.

6) Ensure all portable ladders and other climbing equipment has a tag attached indicating a current inspection has been completed. Report defective equipment to supervisor.

7) Ensure all fall protection equipment has a tag attached indicating a current inspection has been completed. Report defective equipment to supervisor.

8) Maintain assigned equipment.

d. Safety Office

1) Provide technical information and assist departments in implementing an effective Fall Protection Program.
2) Provide technical information and assist Facilities Management Architecture, Engineering, and Construction in designing controls for fall protection into projects.

3) Provide and/or coordinate limited fall protection instruction as needed.

4) Investigate and document all reported accidents that are related to fall hazards, recommending corrective actions.

5) Review and revise the Fall Protection Program, as needed for compliance with applicable regulations.

e. Department of Public Works Directorate

1) Operate the Work Order Desk. Accept reports of hazards and process work orders to correct the hazard or direct the request to another appropriate unit.

f. Designated Competent Persons

1) Implement all aspects of the program for work areas under their control.

2) Receive training for "Competent Person" as defined by OSHA, Army regulations and this document for fall protection.

3) Act as the "Competent Person" for job sites under their control that contain fall hazards.

4) Evaluate fall hazards in work areas under their control. Complete a pre-climb Hazard Analysis.

5) Ensure that employees are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards associated with job tasks.

6) Review pre-climb Hazard Analysis.

g. Designated Qualified Persons

1) Maintain professional certification or other requirements in their subject field.

2) Provide design, analysis, evaluation and specification in their subject field.

3) Maintain records of their designs, analyses, evaluations, and specifications according to the requirements of the Fall Protection Program.

4) Review pre-climb Hazard Analysis.
h. Contractors

Contractors working at White Sands Missile Range are required to comply with this document, as a minimum, all applicable OSHA and Army regulations, and shall have their own Fall Protection Program and are responsible for conducting the fall protection training of their personnel.

5. Information and Training

a. **Employees who work on Ladders:** All employees who use ladders with a working height of six feet or more shall be knowledgeable of the following:

1) How to inspect ladders for visible defects.

2) How to use ladders properly.

b. **Employees who use Fall Protection Personal Protective Equipment to control fall hazards in their work area shall be knowledgeable of the following:**

1) The application limits of the equipment.

2) The proper hook-up, anchoring and tie-off techniques including determination of elongation and deceleration distance.

3) Methods of use.

4) Inspection and storage of equipment.

c. **Employees who use Aerial Lifts:** Employees shall be knowledgeable of the following:

1) The manufacturer’s operating instructions.

2) Pre-start inspection of the lift.

3) Inspection of the work area for dangerous conditions such as uneven surfaces, overhead obstructions such as power lines, and severe weather.

4) Load capacities of the equipment.

5) How to safely move the equipment.

6) How to prevent falls and use appropriate fall protection personal protective equipment.

7) Minimum safe approach distances to energized power lines.
d. **Employees who work on Scaffolds:** Specific training is required in the following:

1) The nature of any electrical hazards, fall hazards and falling object hazards in the work area.

2) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.

3) The proper use of the scaffold, and the proper handling of materials on the scaffold.

4) The maximum intended load and the load carrying capacities of the scaffolds.

e. **Employees Assigned as Fall Protection Competent Persons:** Employees who act as the Competent Person for a work area or job site shall be trained and certified through a qualified fall protection training program (8 hours) to be qualified and knowledgeable of the following (See Section 15 for Tower Climbing Competent Person Requirement):

1) The nature of falls in the work area.

2) The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems used.

3) The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used.

4) The role of each employee in the safety monitoring system when this system is used.

5) The limitations on the use of mechanical equipment during the performance of roofing work on low sloped roofs.

6) The correct procedures for the handling and storage of equipment and material, and the erection of overhead protection.

7) The role of employees in fall protection plans.

8) The appropriate OSHA standards.

f. **Employees Assigned as Scaffold Competent Persons:** Employees who act as the Competent Person in the use of scaffolding shall be additionally trained and certified through a scaffold Competent Person training program (4 hours) to be qualified and knowledgeable of the following:
1) The proper selection of scaffold for the task based upon the type of work to be conducted and the working load to be supported.

2) The correct procedures for the erection of scaffolds.

3) The correct procedures for the dismantling of scaffolds.

4) The correct procedures for the moving of scaffolds.

5) The correct procedures for the altering of scaffolds.

6) The OSHA standards.

g. **Employees Assigned as Qualified Climbers:** Employees who routinely climb fixed ladders, step bolts or similar climbing devices on towers and poles where ladder safety devices are not provided shall meet the following requirements:

1) Shall be physically capable.

2) Shall have successfully completed a training or apprenticeship program that covers hands-on training for the safe climbing of ladders or step bolts.

3) Shall be protected by a fall protection system when reaching their work position.

Employees will require retraining under any of the following conditions:

1) Changes in the workplace render previous training obsolete.

2) Changes in the types of fall protection systems or equipment to be used render previous training obsolete.

3) Inadequacies in an employee's knowledge of use of fall protection systems or equipment or observed behavior indicate that the employee has not retained the required training.

Supervisors shall maintain a written training certification record containing the name of the employee trained, the name of the person who conducted the training, and the date of the training for Competent Persons in Fall Protection and Scaffolds, and Qualified Climber. The written certification record shall contain the name of the employee trained, the date of training, and the signature of the person who conducted the training. Organizations can call the Safety Office, 678-1211 for more information on training requirements.

6. **Fall Hazards**

a. Each supervisor shall be responsible to inspect for potential fall hazards in their work area or planned work area and to have each potential fall hazard evaluated by a Competent Person.
b. Falls may be classified into three general categories:

1) Slips, trips and falls on the same level.

2) Falls on stairs.

3) Falls from elevations.

c. Slips and trips are generally caused by a lack of good housekeeping and inadequate maintenance of walking and working surfaces. Employees shall keep their area clean and orderly. If they are not equipped to eliminate a hazard, they should contact the appropriate maintenance personnel to correct the problem. These hazards may include icy sidewalks, wet floors, torn floor coverings and stair treads, and missing or broken hand rails and guard rails.

d. Fall hazards from elevations include, but are not limited to, unprotected sides and edges of roofs, excavations, skylights, floor holes, wall openings, and all other walking or working surfaces where personnel can possibly fall four feet or more to a lower level.

e. Personnel should alert their supervisors to potential fall hazards not already identified and controlled. The following are fall hazards which require protection.

1) Open sided floors, platforms, and runways four feet or more in height.

2) Open sided floors, ramps, walkways etc. that are adjacent to or above dangerous operations must be guarded regardless of height.

3) Wall openings from where there is a drop of more than 4 feet.

4) Open windows from which there is a drop of more than 4 feet and the bottom of the window is less than 3 feet above the floor or platform.

5) Hatchways and chutes floor openings.

6) Any opening more than 4 feet in elevation where a significant portion of the body is leaning over or through to perform work.

7) Skylights that are even with the roof surface or that may otherwise serve as a walking/working surface.

8) Scaffolds over 6 feet.

9) Towers and other similar structures.
10) Aerial lift devices. Protection from overhead falling hazards must be provided.

1) Placement of toe boards and the use of hard hats shall be required.

2) Equipment shall not be stored within four feet of an unprotected edge.

3) Canopy structures may be required in high traffic areas.

4) The area to which objects could fall must be barricaded and individuals not equipped with hard hats prohibited from entering.

7. Engineering Controls

Supervisors shall have a Competent Person determine if engineering controls can eliminate or lessen the hazard of the work area or job site. Engineering controls shall be provided where possible to minimize fall hazards. Engineering controls of fall hazards consist of the following:

a. Guardrails and Toe boards: These requirements apply to temporary controls on job sites as well as permanent fixtures in general work areas.

1) A standard railing consists of a top rail, mid rail, and posts and is 42 inches high from the top of the rail to the floor, platform, runway or ramp. Nominal height of the mid rail is 21 inches.

2) Standard toe boards must be a minimum of 4 inches high (a minimum of 3 inches for construction), no more than 1/4 inch clearance to the floor. If a mesh material is used, the opening must be less that 1 inch.

3) The anchoring of posts and framing of members for railings of all types must be of such construction that the completed structure is capable of withstanding a load of 200 pounds applied in any direction at any point on the top rail.

4) Guardrail systems have a surface that prevents injuries such as punctures and lacerations and prevents snagging of clothing.

5) When guardrail systems are in hoisting areas, a chain gate or removable guardrail section shall be in place when not being used.

b. Skylights

1) The Skylights that may be used as a walking or working surface must be protected by a standard railing, standard skylight screen, grill work with 4 by 4 inch openings or slat work with 2-inch openings.
2) Standard skylight screens must be capable of withstanding minimum load of 200 pounds applied perpendicular to any point on the screen and will not deflect under ordinary loads and impacts and break glass.

c. **Covers**

1) Covers for holes, including grates, shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.

2) Covers located on roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over it.

3) All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.

4) Covers shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard when it is not readily apparent.

5) While a cover is not in place, the pit or trap opening shall be constantly attended by someone or shall be protected on all exposed sides by removable standard railings.

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**8. Fall Protection Personal Protective Equipment**

Personal protective equipment shall be used to minimize fall hazards where engineering controls do not eliminate the hazard or in conjunction with engineering controls. Fall protection equipment is divided into five functional categories: 1. Fall Arrest, 2. Positioning, 3. Suspension, 4. Retrieval and 5. Restraint.

a. **Fall Arrest**

The use of a personal fall arrest system is the required personal protective equipment for fall hazards at the White Sands Missile Range. A personal fall arrest system consists of one or the other of the following:

1) Full-body harness, lanyard, and anchor point.

2) Full-body harness, lanyard, lifeline, anchor point, and deceleration/grabbing device.

All fall protection equipment shall meet or exceed appropriate American National Standards Institute (ANSI) standards. White Sands Missile Range employees shall use only commercially manufactured equipment specifically designed for fall protection and certified by a nationally recognized testing laboratory. All fall protection equipment must bear the marking of the manufacturer and approvals for specified use. Requirements for a personal fall arrest system include but are not limited to the following:
1) **Body Harness** - Only full-body harnesses shall be used. The use of a body belt is prohibited.

2) **Connecting Device** - Shock-absorbing lanyards and lifelines
   a) Lanyards and lifelines shall have a minimum breaking strength of 5000 pounds.
   b) Lanyards shall not exceed six feet in length. Lanyards used on aerial lift devices should not exceed 4 feet in length to reduce slack.
   c) Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers.
   d) Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.
   e) Self-retracting lifelines and lanyards shall have a tensile strength of at least 3000 pounds and limit free fall to two feet or less (5,000 pounds for ripstitch lanyards, and tearing and deforming lanyards).
   f) Personal fall arrest systems shall limit the maximum arresting forces to 1800 pounds with a full body harness.
   g) The maximum free fall distance is six feet for all systems.
   h) The maximum deceleration distance is 3.5 feet.
   i) Personal fall arrest systems shall have sufficient strength to withstand twice the potential impact energy of the falling employee.
   j) Lifelines shall be protected against cutting and abrasions.
   k) Horizontal lifelines shall be designed, installed and used under the supervision of a Qualified Person, as part of a complete personal fall arrest system, which maintains a safety factor of two. On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.
   l) Each employee shall be attached to a separate lifeline when vertical lifelines are used. On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

3) **Anchorage** - Anchorage point and anchorage connector
a) Anchorages used for personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and be capable of supporting at least 5000 pounds per employee attached, or shall be designed, installed (temporarily or permanently), and used as part of a complete fall arrest system which maintains a factor of two and under the supervision of a Qualified Person.

b) A Qualified Person shall determine all anchor points, both temporary and permanent. Permanent anchor points shall be properly marked.

c) Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists except as specified in other regulations.

b. Positioning

A positioning device is not a substitute for a personal arrest system and is limited to use as a system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Where positioning device is used, it shall comply with the following:

1) Only a full-body harness shall be worn as part of a positioning device system. Body belts are not acceptable.

2) Positioning devices shall be rigged such that a free fall cannot be more than 2 feet.

3) Positioning devices shall be secured to an anchorage point capable of supporting at least twice the potential impact load of an employee’s fall or 3,000 lbs, whichever is greater.

c. Suspension

Personal suspension systems are used for window washing and painting and are designed to lower and support a worker to perform tasks. The components of a suspension system are:

1) Full-Body Harness.

2) Work line.

3) Anchorage.

4) Positioning device such as a boatswain’s chair.

A boatswain’s chair system is considered a single-point adjustable suspended scaffold. Since the suspension system components are not designed to arrest a free fall, a back-up fall arrest system should be used in conjunction with the personal suspension system that would activate only if the worker were to experience a free fall.
d. **Retrieval**

Personal retrieval systems are used for confined space entry and on-entry rescue.

Personal retrieval systems consist of the following:

1) Full body hardiness.

2) Retractable lifeline/rescue unit.

3) Tripod.

e. **Restraint**

A restraint line is a device which is attached between the employee and an anchorage point to prevent the employee from walking or falling off an elevated surface. It does not support an employee at an elevated surface, but rather, prevents the employee from leaving the elevated surface or work position.

**Prompt rescue shall be provided for personnel who have fallen by contacting 911 or radioing for help. No work shall be performed where an emergency cannot be immediately observed and prompt rescue assistance summoned.**

Any other personal protective equipment deemed necessary for the task under the Personal Protective Equipment Standard must be worn. This includes but is not limited to hard hats, gloves, safety glasses, and steel toed boots. Hard hats shall be worn within an area beneath elevated work where objects could fall from a height and strike a worker. All PPE must be rated for the type of hazard identified in the pre-climb Hazard Analysis.

**Equipment Inspections and Maintenance**

a. **Impact Loading**

Any fall arrest system or component that has been used to arrest a fall (impact loading) shall be immediately removed from service until is inspected and determined by a Competent Person to be undamaged.

b. **Inspection**

Visual equipment inspections shall be conducted by personnel prior to each use. If, upon inspection, a piece of equipment shows any signs of wear it must immediately be removed from service and the supervisor notified.

c. **Maintenance**
When needed, fall protection devices should be washed in warm water using a mild detergent, rinsed thoroughly in clean warm water and allowed to dry at room temperature. Stow equipment in clean area away from strong sunlight and extreme temperatures which could degrade materials. Check the manufacturer's recommendations for cleaning, maintenance and storage information.

9. **Roofing**

The hazards associated with work on roofs include falling through openings and falling off edges. The protection of openings is discussed in the engineering controls section of this program.

Effective roof work fall protection techniques are intended to protect workers while providing the mobility and comfort necessary to perform work tasks. Several techniques are available and are described below.

a. **Low-slope or Flat Roofs**

Each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, or warning line system and personal fall arrest system, or warning line system and personal fall arrest system, or warning line system and safety monitoring system. Or, on roofs 50-feet (15.25 m) or less in width the use of a safety monitoring system alone [i.e. without the warning line system] is permitted.

b. **Steep roofs**

Each employee on a steep roof with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems with toe boards, safety net systems, or personal fall arrest systems.

c. **Personal Fall Arrest System**

1) The system of choice for fall protection on roofs is the personal fall arrest system.

2) Requirements for personal fall arrest systems are found in the Fall Protection Personal Protection Equipment section of this program.

3) Personal fall arrest systems for roof work must be designed by a Qualified Person.

d. **Designated Areas**

As an alternative to installing guardrails, a designated area may be established. The following condition and requirements must be met in order to use designated areas in lieu of other fall protection measures:
1) The work must be of a temporary nature, such as maintenance on rooftop equipment.

2) Designated areas shall be established only on surfaces that have a slope from horizontal of 10 degrees or less.

3) The designated area shall consist of an area surrounded by a rope, wire, or chain and supporting stanchions.
   a) After being erected with the line attached, stanchions shall be capable or resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion.
   b) The line shall have a minimum breaking or tensile strength or 500 pounds.
   c) The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.
   d) The line shall be installed in such a manner that its lowest point is no less that 34 inches or more than 39 inches from the work surface.
   e) The line forming the designated area shall be clearly visible from any unobstructed location within the designated area up to 25 feet away.
   f) The stanchions shall be erected as close to the work area as is permitted by the task.
   g) The perimeter of the designated area shall be erected no less than 6 feet from the unprotected side or edge.
   h) Access to the designated area shall be by a clear path formed by two lines attached to stanchions.

10. Scaffolds
   a. Use of Scaffolds
      1) Selection

      The proper scaffold selected for the task by the Competent Person is based upon the type of work to be conducted and the working load to be supported.

      a) Light duty scaffolds are intended for workers and tools only. The design load should be that it will support a working load of 25 pounds per square foot.
b) Medium duty scaffolds are intended for workers, tools and construction materials. The design load should be that it will support a working load of 50 pounds per square foot.

c) Heavy duty scaffolds are intended for workers, tools, stored materials, and construction materials. The design load of the scaffold should be that it will support a working load of 75 pounds per square foot.

All scaffolds must be capable of supporting at least four times the design load.

2) **General Requirements**

a) Fall protection is required for all scaffold use 6 feet above a lower level.

b) All scaffolds, where work is conducted in excess of 6 feet in height, shall have 4 inch toe boards.

c) A scaffold shall not be moved while personnel are on it.

d) Follow all manufacturer's guidelines and special warnings if the scaffold is commercially produced.

e) The maximum work level height shall not exceed 4 times the least base dimension of the scaffold. Example: a four foot by six foot scaffold cannot exceed sixteen feet in height at the work platform level.

f) The minimum working platform width is two feet.

g) The supporting structure for the scaffold must be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.

h) Working platforms should have a non-slip surface.

i) Scaffolds should be used only on an even surface.

j) The platform surface should be kept clear of extraneous tools and materials.

k) The work level platform shall be wood, aluminum, plywood planking, steel or expanded metal for the full width of the scaffold, except for necessary protected openings.

l) Work platforms shall be secured in position.

m) All work platform planking shall be in compliance with OSHA 1926.453(a)(3)(v). Wood shall be compliance grade lumber. Planks shall be overlapped a minimum of 12 inches and extended over supports 6 - 12 inches.
n) Follow all manufacturer guidelines in the assembly of the scaffold. Do not use or assemble the scaffold, if unsure of the correct assembly procedure.

o) Type 2 hard hats must be worn within an area beneath elevated work where objects could fall from a height and strike a worker.

p) Mobile scaffolds shall not be moved unless the surface of travel is within 3 degrees of level and free of pits, holes and obstructions, and the employee on the scaffold has advanced knowledge of the movement.

b. Inspection of Scaffolds

Prior to the use of any scaffold, an inspection must be conducted, and then daily during usage of the scaffold. A scaffold inspection checklist must be completed daily prior to usage.

1) Carefully examine the scaffold for broken or missing cross bracing, broken supporting structure, working platform, and other damaged parts. In addition, all walking and working surfaces must be free of grease, oil, paint, or other slippery substances.

2) The scaffold should be equipped with positive wheel lock casters that are secured in place.

3) The joint between working platform and supporting structure must be tight, and all hardware and fittings should be attached firmly. Movable parts should operate freely without binding or undue play.

4) All wood parts must be free of sharp edges and splinters. Visually inspect the scaffold to be free of shakes, warpage, decay or other irregularities. Metal parts must be free of sharp edges, burrs and corrosion. Inspect for dents or bends in supporting structure, cross braces and walking/working surfaces.

5) Check all working platform to support structure connections, hardware connections and rivets. If a scaffold tips over, inspect the scaffold for damage before continuing work.

6) Damaged scaffolds must be withdrawn from service and either repaired or destroyed. When a defect or unsafe condition is found, personnel shall tag or mark the scaffold so that it will not be used until corrective action is taken. Defective or unsafe situations shall be reported to the supervisor. Field repairs and the fabrication of improvised scaffolds are prohibited.

c. Maintenance of Scaffolds

All scaffold repairs must be done by a Qualified Person.

d. Storage of Scaffolds
Scaffolds should be disassembled prior to storage. Scaffolds should be stored where they can be inspected easily and can be reached without causing accidents. The storage area should be well ventilated and away from sources of heat and moisture.

11. Aerial Lifts

A aerial lift pre-use inspection checklist must be completed daily prior to usage. Aerial lifts include the following types of vehicle mounted aerial devices used to elevate personnel to job sites above ground:

Articulating boom platforms are designed to reach up and over obstacles.

Extensible or telescoping boom platforms may extend over one hundred feet.

Vehicle mounted bucket lifts are used to repair utility lines.

Scissor lifts extend into the air via a series of crisscross supports.

Personal man lifts are lightweight and designed for one person to use indoor.

a. Specific requirements

1) Aerial ladders shall be secured in the lower traveling position before the truck is moved for highway travel.

2) Lift controls shall be tested each day prior to use.

3) Only personnel authorized by a fall protection Competent Person shall operate an aerial lift.

4) Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

5) A full-body harness shall be worn and a lanyard attached to the boom or basket when working from an aerial lift (exception: a harness is not required in a scissor lift or personal man lift with surrounding guardrail system and closing gate or latch chain).

6) Belting off to an adjacent pole structure, or equipment while working from an aerial lift shall not be permitted.

7) Boom and basket load limits specified by the manufacturer shall not be exceeded.

8) The brakes shall be set and when outriggers are used, they shall be positioned on pads or other solid surface. Wheel chocks shall be installed when using an aerial lift on an incline.
9) An aerial lift truck shall not be moved when the boom is elevated in a working position, except for equipment which is specifically designed for this type of operation.

10) Articulating and extensible boom platforms shall have both platform and ground controls.

11) Before moving an aerial lift for travel, the boom shall be inspected to ensure that it is properly cradled and outriggers are in the stowed position.

b. **Minimum Safe Approach Distances (M.S.A.D)**

The minimum safe approach distances to energized power lines and parts must be maintained.

<table>
<thead>
<tr>
<th>Voltage Range (phase to phase)</th>
<th>Minimum Safe Approach Distance (Feet)</th>
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</thead>
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<td>0 to 300 V</td>
<td>Avoid Contact</td>
</tr>
<tr>
<td>Over 300V to 50 kV</td>
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</tr>
</tbody>
</table>

### 12. Portable Ladders

a. **Use of Portable Ladders**

The proper ladder must be selected for the task. General rules include the following:

1) The ladder chosen must be long enough to provide access to the work area without necessitating standing on the top two steps of a stepladder or the top three rungs of a straight ladder.

2) The ladder selected must be sufficient for the weight of the employee plus the weight of any tools and materials:

   a) TYPE 1A-Extra-heavy industrial ladder will support 300 lbs.

   b) TYPE 1-Heavy-duty industrial ladder will support 250 lbs.

   c) TYPE 2-Medium-duty commercial ladder will support 225 lbs.

   d) TYPE 3-Light-duty household ladder will support 200 lbs.

3) When a straight ladder is used to gain access to a roof, the side rails should extend at least three feet above the support point at the eave, gutter, or roof line.

4) Never splice together short ladders to form a longer ladder.
5) Never place ladders on boxes, barrels, or other unstable bases for additional height.

6) Ladders must be placed on level surfaces. Although ladder feet or shoes provide an important measure of safety, they cannot compensate for uneven ground unless they are designed with adjustable feet.

7) Be alert to slippery surfaces. Non-slip bases are not a substitute for safety in placing, lashing, or holding a ladder on oily, metal, concrete, or other slippery surfaces.

8) Do not use ladders for unintended purposes.

9) Do not use a metal ladder when working on or near electrical equipment.

10) The distance from the bottom of a straight ladder to its support wall shall be one-quarter the working length of the ladder.

11) Where possible, straight ladders should be secured with a rope or wire at the top and blocked at the bottom.

12) The top two steps and platform of a stepladder shall not be used, and the top three rungs of a straight ladder shall not be used.

13) Do not over-reach, jump or slide a ladder while on it. Ladders shall not be moved, shifted, or extended while occupied. A good rule is to always keep your belt buckle inside the rails of a ladder.

14) Always face the ladder and use both hands while ascending and descending.

15) Tools or materials should be raised by means of a rope after the climber has reached the working position. Carrying heavy loads up or down ladders is prohibited.

16) Barricades and warning signs should be posted when ladders are placed near doors or other locations where they could be struck.

17) Two workers shall handle and set up all extension ladders.

18) Ladders should not be used by more than one person at a time unless they are designed for such use.

19) The bracing on the back side rails of stepladders is designed only for increasing stability, not for climbing.

20) Ladders shall not be used horizontally as platforms, runways, or scaffolds. Extension ladders must have proper overlap.

   a) Three foot overlap for 32 foot ladder.
b) Four foot overlap for 32 to 36 foot ladder.

c) Five foot overlap for 36 to 48 foot ladder.

d) Six foot overlap for 48 foot ladder.

21) Make certain that both automatic locks of the extension ladder are in proper position before ascending the ladder.

22) Straight ladders and stepladders that exceed 10 feet may be held by another person for steadying.

23) The area around the top and bottom of the ladder shall be kept clear.

24) Type 2 hard hats must be worn within an area beneath elevated work where objects could fall from a height and strike a worker.

b. Inspection of Ladders

All ladders must be inspected monthly and annotated on an attached tag. Prior to use of any ladder, an inspection must be performed:

1) Carefully examine the ladder for broken or missing rungs or cleats, broken side rails, and other damaged parts.

2) All cleats, rungs, and side rails must be free of grease, oil, paint, or other slippery substances.

3) The ladder should be equipped with feet that are secured in place.

4) The joint between steps and side rails must be tight, and all hardware and fittings should be attached firmly. Movable parts should operate freely without binding or undue play.

5) All wood parts must be free of sharp edges and splinters.

6) Visually inspect the ladder to be free of shakes, warpage, decay or other irregularities.

7) Metal ladders must be free of sharp edges, burrs and corrosion.

8) Inspect for dents or bends in side rails, rungs or cleats.

9) Check step to side rail connections, hardware connections and rivets.

10) If a ladder tips over, inspect the ladder for damage before continuing work.
c. **Maintenance of Ladders**

Damaged ladders must be withdrawn from service immediately and either repaired or destroyed. When a defect or unsafe condition is found, personnel should tag the ladder “Do Not Use” or mark the ladder so that it will not be used until the corrective action is taken. Defective or unsafe conditions must be reported to the supervisor. Field repairs and the fabrication of improvised ladders are prohibited. Never try to straighten a bent or bowed ladder. Remove it from service immediately. Do not paint wooden ladders with solid color paints. This may mask cracks in the wood and make them hard to see. Clear wood preservative can be used to protect bare wood.

If exposed to greases, oils or other slippery substances, the ladder must be cleaned of the substance with solvents or steam. If the slippery substance is not completely removed, the ladder must be removed from service.

d. **Storage of Ladders**

Ladders should be stored where they can be inspected easily and can be reached without causing accidents.

**13. Fixed Ladders and Stairs**

a. **Fixed Ladders**

1) Fixed ladders should be designed to withstand a single concentrated load of at least 200 lbs.

2) Rungs of metal ladders must have minimal diameter of three quarters inch. Rungs must be at least 16 inches wide, be spaced 12 inches apart.

3) Fixed Ladders, when their location so demands, must be painted or treated with a preservative to resist deterioration.

4) The preferred pitch for a safe descent is 75 to 90 degrees. Ladders with 90 degree pitch must have two and one half feet of clearance on the climbing side. There must be a three foot clearance on ladders with a 75 degree pitch.

5) There must be at least a seven inch clearance in back of the ladder to provide adequate toe space.

6) There must be a clear width of 15 inches on each side of the center line of the ladder, unless the ladder is equipped with a cage or well.
7) Fixed ladders must have cages if they are longer than 20 feet. Landing platforms must be provided on ladders greater than 20 feet long. A platform is required every 30 feet for caged ladders and every 20 feet for unprotected ladders.

8) Ladder safety devices may be used on tower, water tank, and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform is required in these cases. All ladder safety devices such as those that incorporate lifebelts, friction brakes, and sliding attachments shall meet the design requirements of the ladders which they serve.

9) Cages shall extend down the ladder to a point not less than 7 feet nor more than 8 feet above the base of the ladder, with bottom flared not less than 4 inches, or portion of cage opposite ladder shall be carried to the base.

10) Side rails must extend at least 42 inches above the landing.

b. **Fixed industrial stairs**

The following applies to all stairs around equipment, machinery, tanks etc. They do not apply to stairs used for fire exits:

1) Riser height and tread width of fixed industrial stairs should be uniform throughout any flight of stairs. All treads must be reasonably slip resistant.

2) The minimum permissible width of a stairway is 22 inches.

3) The angle to the horizontal made by the stairs must be between 30 and 50 degrees.

4) All stairs should be adequately lighted.

5) If the tread is less than 9 inches wide the risers should be open.

c. **Flights of stairs having four or more risers:**

1) A stair railing is required on each opened side.

2) If the stairway is less than 44 inches wide and both sides are enclosed, at least one handrail is required, preferably on the right side descending.

3) If the stairway is greater than 44 inches wide a handrail is required on each enclosed side.

4) If the stairway is greater than 88 inches wide an intermediate stair railing located midway is required.

5) The vertical height of a stair railing must be 30 to 34 inches, and it must be of construction similar to the standard guard railing.
6) Spiral stairways are not permitted except for special limited usage and secondary access situations where it is not practical to provide a conventional stairway.

d. **Embedded Stairs**

1) Individual steps used for access or egress, embedded in the walls of risers or the conical top sections of manholes must be safe, well constructed, and installed in accordance with good engineering practices.

2) Individual rungs or steps must be uniformly spaced from 12 to 16.5 inches.

3) The use of steps in personal access holes should be designed to prevent the foot from sliding off the end.

e. **Alternating Tread Stairs**

Alternating tread type stairs are permitted if they are installed, used, and maintained according to the manufacturer's recommendations:

1) The stair must be installed at an angle of 70 degrees or less.

2) The stairs must be equipped with a handrail at each side to assist the workers in climbing or descending.

**14. WALKING AND WORKING SURFACES**

In general, all areas of the workplace should be kept clean, orderly, sanitary, and as dry as possible. These guidelines apply to work areas, passageways, store rooms, and service rooms:

a. All spills should be cleaned promptly. Floors in work areas must be kept free of scraps, chips, oil spills, and other debris.

b. Boxes, chairs, buckets, desks or any other device not specifically intended for use in extending reach shall not be used.

c. Areas which are constantly wet should have non-slip surfaces or mats where workers may walk or work. Where wet processes are used good drainage must be maintained.

d. Every floor, working place, and passageway must be maintained free from protruding nails, splinters, holes, and loose boards.

e. Where mechanical handling equipment is used, such as lift trucks, sufficient safe clearance must be provided for foot and vehicular traffic.
f. No obstructions that could create a hazard are permitted in aisles. All permanent aisles must be easily recognizable.

g. As a general condition, a standard toe board and guard rail are required where ever people walk near or beneath the open sides of a platform or similar structures; where things could fall from a structure; or where things could fall from a structure into machinery below.

15. Tower Climbing

a. Responsibilities

1) Any employee required to climb a tower must attend a tower climbing safety class. (Training is received through an organization following the guidelines established by the National Association of Tower Erectors (NATE)). Contractors will be required to furnish documentation of tower climbing training.

2) Requisite Levels of Training – Tower related OSHA 10-Hour Training, or its equivalent, is required for all personnel who will be working on a tower site. Tower related OSHA 30-Hour Course or its equivalent, is required for anyone operating in the capacity of a supervisor or Competent Person on site.

3) Ensure the presence of a Competent Person, responsible for safety and health activities, at each tower.

   Competent person: A person who is capable of recognizing existing and predictable hazards and has the authority to take corrective action. Additionally, a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof as well as in their application and use with related equipment. To be considered a Competent Person, OSHA 30-Hour Training, or its equivalent, is required. To be considered a Competent Person for equipment inspections, the manufacturer's training guidelines shall be followed.

4) The tower climbing personnel will be responsible for barricading the drop zone area according to the height they will be working. “Drop zone area”. The drop zone is identified as a circle with its center at the base of the tower base, and having a radius of one foot for every two feet of working height. The drop zone will vary with the height at which personnel are working. (Example: If personnel are working at a height of 50 feet, the drop zone would be a circle around the tower with a 25-foot radius.)

5) Anyone required to work on a tower will be trained in the proper procedures of tower climbing.

6) Training is received through an organization following the guidelines established by the National Association of Tower Erectors (NATE).

7) Anyone ascending towers has training certification available for viewing.
8) Two employees with tower climbing certification are on site any time the tower is climbed.

9) Only inspected and approved safety equipment is being used at the tower site.

b. **Pre-climb Safety**

*Pre-Climb Safety.* Pre-mobilization planning: Prior to any work on an elevated structure the following shall be evaluated by the supervisor:

1. The skill and experience of each member of the crew assigned to perform the work.
2. Any special equipment that will need to be acquired and any special training or training reviews that must be performed before work begins.
3. The type of equipment that will be required and the individual worker's training and skill with that equipment.
4. Any special fabrication required for safety before work begins.
5. The emergency services available near the site and whether they could find the site in a timely manner. Question rescue services to establish that they have the equipment, skills and response time to rescue a climber in the expected environment. These services should be given directions to the site.
6. The location of the nearest medical facilities. Every member of the crew should have access to a route map.
7. The phone numbers of emergency facilities, accessible to all members of the crew. Work at remote locations will require use of cell phones or a means of positive communications.
8. The familiarity of each climber regarding the location AND operation of any rescue equipment and location of a first aid kit.
9. The tower should not be climbed in inclement weather, when electrical storm activity is forecast, or when fog obscures that portion of the tower to be climbed. In locations where fog is usually present and where unacceptable delays would result while waiting for the fog to dissipate, the tower may be climbed provided the climber and safety observer are equipped with reliable two-way radios. Radio checks should be initiated at least every 5 minutes.
10. The tower shall be de-energized for mounting, climbing and dismounting. A deadman stick shall be used to positively ground the tower.
11. A safety lanyard shall be attached to all tools and equipment on the tower to prevent missile hazards.
12. Site Safety Meeting - Upon arrival at the site, all climbers shall hold a pre-climb safety meeting. Ensure every climber knows where emergency equipment is stored and where emergency medical facilities are located. The length of these meetings is directly related to the complexity and type of work to be performed.
   a. **Hazard Assessment:** Review all possible hazards to include:
      (1) Weather related, such as wind, snow, ice, moisture, lightning and sunshine.
      (2) Electrical dangers.
(3) Noise.
(4) Live hazards such as snakes, birds, insects, rodents, farm animals and other humans.
(5) Other conditions, including non-standard structure hazards.

b. Perform individual pre-climb inspections to include route inspection.

c. **Rescue Planning**

1) Always have two trained people present when a climb is performed. These people shall be certified in tower climbing.

2) Each climber will be trained in CPR and first aid to provide emergency treatment on site.

3) Notify EMS and Heavy Rescue Team of climbing operation in the event a climber becomes stuck or injured on a tower.

d. **Equipment**

1) Always use the proper equipment for the job.

2) Never alter or use incorrect body harnesses; safety belts are not acceptable fall protection equipment.

3) If tool belts are worn, they must be under the body harness or attached to a belt incorporated within the harness intended for said purposes.

4) All personnel involved in the maintenance of the tower will wear hard hats in the drop zone. The drop zone is identified as a circle with its center at the base of the tower base, and having a radius of one foot for every two feet of working height. The drop zone will vary with the height at which personnel are working. (Example: If personnel are working at a height of 50 feet, the drop zone would be a circle around the tower with a 25-foot radius.)

5) When using tools, always have a safety line attached to the tool to prevent it from falling.

6) Any lanyard or body harness that has been exposed to loading shall be taken out of service until the manufacturer can recertify it for use.

7) With no exception, all climbers will use approved equipment to maintain a 100% tie-off while on the tower. This will apply to ascending, descending, moving point-to-point, or any tower construction or alteration-work activity conducted at an elevated workplace.
e. **Inspection**

1) Check the general condition of the structure and anchorage points before climbing. (Review maintenance records for pertinent information if they are available.) Inspections must be done at least every 3 years for guyed towers and every 5 years for self-supporting towers.

2) Check all components of the tower before climbing (e.g., guy wires, ladders, elevators, safety cable tension on the ladder, etc.).

3) Since different types of towers have unique problems with corrosion, check with the manufacturer to determine the proper procedure for periodically inspecting the tower’s protective coating and structural integrity.

4) Inspect all PPE and climbing equipment prior to each use. Inspect lanyards for wear, cuts, and burns.

5) If communication equipment is used, inspect it before each climb.

6) Inspect all body harnesses, slings, lines, and connectors before each climb.

### 4.0 INSPECTION GUIDELINES

**General.** When available consult sources of technical and historical information for tower.

**Inspection Routine for Manned and Unmanned Tower Sites.** The following general inspection routine is recommended for station personnel at manned tower sites.

**DAILY** - Visually check the lights after sunset unless monitored by an automatic failure alarm system.

**WEEKLY** - Visually check all guy assemblies and tower structural members from two or more good vantage points on the ground. For energized towers, check for visible or audible corona or arcing on any antenna system components.

**MONTHLY** - Visually check each anchor and the tower for abnormal conditions. Visually check tower alignment.

**ANNUAL** - Inspection for tall towers.

**TRIENNIAL** - Inspection for small towers.
**Inspection Reports.** A simple procedure for reporting station level inspections should be established by the servicing tower owner, whereby only exceptions to the norm are reported. However, reports of inspections by engineers, tower specialists, and contractors should be as detailed as possible; they should contain, as appropriate, plots of alignment and twist, guy tension readings, accurate descriptions of discrepancies and their location, and good color photographs.

Simplicity, brevity, and substance should be the attributes of the narrative portions of inspection reports. Maximum use should be made of color photographs to show normal, typical, and unusual conditions. Copies of reports showing unusual conditions or procedures should be forwarded to other field commands that are responsible for similar towers.

### 5.0 TOWER INSPECTION REPORTS
Most reports contain narrative sections and photographs which will supplement the information. Civil Engineering Units are encouraged to develop standardized forms which are tailored to local conditions. All tower inspection reports need to include at a minimum the following information:

- **Cover Sheet:** Station Name, Tower height, model and purpose, Inspection Date, Inspector name and signature.
- **General Comment:** Give a brief summary of the overall tower condition description upon completion of the current inspection.
- **Initial Tower Condition:** List discrepancies not corrected from the last report and any new discrepancies found during the current inspection. Provide initial alignment, twist, and tension readings, including plots of all of these readings. Provide the initial lighting system diagram and data.
- **Previous Discrepancies Corrected:** List and briefly explain discrepancies corrected from the previous report, prior to the current inspection.
- **Maintenance Accomplished:** Give a summary of routine maintenance and discrepancy corrections accomplished during the current inspection.
- **Completed Tower Condition:** Give a final detailed tower condition description, and provide final readings and plots of the alignment, tensions and twist readings. Include the final lighting system diagram and data.
- **Recommended Actions:** List recommended actions and dates by which action should be taken to correct discrepancies addressed and left uncorrected upon completion of the current inspection.

Maximum use should be made of color photographs to show normal, typical, and unusual conditions. When inspection work is accomplished by a contractor, the servicing CEU should review the Inspection Report and add comments, narratives, and plots as necessary.
### Duties Requiring a "Competent Person"

<table>
<thead>
<tr>
<th>Subject</th>
<th>Standard</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolds</td>
<td>1926.450</td>
<td>Person means a person who, because of training and experience, is capable of identifying hazardous or dangerous conditions, of training employees to identify such conditions, and who has authorization to take prompt corrective measures to eliminate them.</td>
</tr>
<tr>
<td>Walking-Working Surfaces</td>
<td>1910.28</td>
<td>Erect tube and coupler scaffolds</td>
</tr>
<tr>
<td>Walking-Working Surfaces</td>
<td>1910.28</td>
<td>Erect tubular welded frame scaffolds</td>
</tr>
<tr>
<td>Walking-Working Surfaces</td>
<td>1910.28</td>
<td>Mason's adjustable multiple-point suspension scaffolds shall be installed or relocated in accordance with instruction of a registered Professional Engineer and supervised by a Competent Person</td>
</tr>
<tr>
<td>Walking-Working Surfaces</td>
<td>1910.28</td>
<td>Stone setters' adjustable multiple point suspension scaffolds shall be installed or relocated in accordance with instruction of a registered Professional Engineer and supervised by a Competent Person</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.502</td>
<td>Certify safety net systems</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.502</td>
<td>Inspect personal fall arrest systems and components subjected to impact loading immediately after use to determine if they are undamaged and suitable for use.</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.502</td>
<td>Perform the duties of the Safety Monitor when a Safety Monitor System is used</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.502</td>
<td>Supervise the implementation of a fall protection plan prepared by a Qualified Person when conventional fall protection equipment is infeasible.</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.503</td>
<td>Provide training to employees who are exposed to fall hazards</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>1926.451</td>
<td>Supervise the erection, movement, dismantling, or altering of all scaffolds. The Competent Person shall determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds.</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>1926.451</td>
<td>Inspect scaffolds and scaffold components before each work shift and after any occurrence which could affect a scaffold’s structural integrity</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>1926.451</td>
<td>Supervise the installation and relocation of mason's adjustable multiple-point scaffold.</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1910.268</td>
<td>Inspect personal protective devices, tools and equipments</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1910.268</td>
<td>Inspect and check ladders for adequate strength, good condition and that they are secured properly</td>
</tr>
</tbody>
</table>
Appendix B

**Duties Requiring a "Qualified Person"**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Standard</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolds</td>
<td>1926.450</td>
<td>Qualified Person means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project or product.</td>
</tr>
<tr>
<td>Walking-Working Surfaces</td>
<td>1910.30</td>
<td>Only the manufacturer of a scaffold or his qualified designated agent shall be permitted to erect or supervise the erection of scaffolds exceeding 50 feet in height.</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>1926.451</td>
<td>Scaffolds shall be designed by a Qualified Person and shall be constructed and loaded in accordance with that design.</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>1926.454</td>
<td>Each employee who performs work while on a scaffold shall be trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control hazards.</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.503</td>
<td>A fall protection plan (used when conventional fall protection equipment is infeasible) shall be prepared by a Qualified Person and developed specifically for the site.</td>
</tr>
<tr>
<td>Fall Protection</td>
<td>1926.502</td>
<td>Anchorages used for personal fall arrest systems shall support at least 5000 pounds per employee or shall be designed, installed and used under the supervision of a Qualified Person.</td>
</tr>
</tbody>
</table>
Appendix C

Glossary of Terms

Aerial lift device: means equipment such as powered platforms, vehicle-mounted elevated and rotating work platforms, extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers and powered industrial truck platforms.

Anchor point: A secure point of attachment for lifelines, lanyards or deceleration (grabbing) devices.

Body belt: A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration (grabbing) device. **Body belts are prohibited at White Sands Missile Range.**

Body harness (also referred as Full-body harness): An interconnected set of straps that may be secured about a person in a manner that distributes the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal fall arrest system.

Connector: A device that is used to connect parts of a personal fall arrest system together (i.e. D-rings, and snap hooks).

Competent Person: A person who is capable of recognizing existing and predictable hazards and has the authority to take corrective action. Additionally, a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof as well as in their application and use with related equipment. To be considered a Competent Person, an 8-hour training class must be completed for general fall protection and an additional 4-hour training class must be completed for scaffolds. To be considered a Competent Person for equipment inspections, the manufacturer's training guidelines shall be followed (See Section 15 for Tower Climbing Competent Person Requirement).

Deceleration device: Any mechanism, such as a rope, grabbing device, rip stitch lanyard, specially woven lanyard or automatic self-retracting lifeline/lanyard, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.

Deceleration distance: The additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.

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.
**Fixed ladder:** a ladder, including individual rung ladders that is permanently attached to a structure, building, or equipment. It does not include ship's stairs or manhole steps.

**Guard rail:** A barrier erected to prevent personnel from falling to lower levels.

**Hole:** A void or gap 2 inches or more in its least dimension in a floor, roof, or other walking/working surface.

**Horizontal lifeline:** a flexible line between two horizontal fixed anchorages to which a fall arrest device is connected.

**Infeasible:** means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.

**Ladder:** a device typically used to gain access to a different elevation consisting of two or more structural members crossed by rungs, steps, or cleats.

**Lanyard:** A flexible line of rope or strap that generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchor point.

**Lower levels:** Those areas or surfaces to which and employee can fall. Such areas include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits tanks, material, water, equipment, structures, or portions thereof.

**Low-slope roof:** means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

**Mechanical equipment:** means all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

**Opening:** A gap or void 30 inches or more high and 18 inches or more wide in a wall or partition, through which personnel can fall to a lower level.

**Positioning device system:** means a body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

**Personal fall arrest system:** means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

**Qualified Climber:** a person who by virtue of physical capabilities, training, work experience and job assignment who is authorized by the employer to routinely climb fixed ladders and step bolts on structures such as towers and poles that do not have ladder protection devices such as cages and rest platforms.
Qualified Person: one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project or product.

Restraint line: a device which is attached between the employee and an anchorage to prevent the employee from walking or falling off an elevated surface.

Roof: means the exterior surface on the top of a building.

Roofing work: means the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.

Rope grab (grabbing device): A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.

Scaffold: means any temporary elevated or suspended platform, at its supporting structures, used for supporting employees or materials or both.

Self-retracting lifeline/lanyard: A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal movement and which, after onset of a fall, automatically locks the drum and arrests the fall (usually within two feet or less).

Standard railing: A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

Steep roof: means a roof having a slope greater than 4 in 12 (vertical to horizontal).

Snap hook: A connector consisting of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released automatically closes to retain the object. **Only locking snap hooks are permitted at White Sands Missile Range.**

Toe board: A low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

Tie-Off: A procedure of connecting directly or indirectly to an anchorage point.

Unprotected sides and edges: means any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Vertical Lifeline: A component consisting of a flexible line for connection to an anchor point at one end to hang vertically and that serves as a means for connecting other components of a personal fall arrest system to the anchor point.
Walking/working surface: means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, form work and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Work area: means that portion of a walking/working surface where job duties are being performed.
Appendix N
MEMORANDUM FOR Directors, Office Chiefs, Test Officers and Test Conductors of WSMR Test Centers

SUBJECT: Policy Letter #6: Use of Personal Protective Equipment (PPE) During Manned Firing Operations


2. It is the goal of any testing, mission or training occurring on White Sands Missile Range (WSMR) that it be performed safely, and with a successful outcome for the customer, WSMR and the Army. Any grievous injury or loss of life during these activities is unacceptable. Safety must be at the forefront of any planning and execution of tests and missions, in order to ensure the various entities have correctly identified and addressed all safety requirements, including PPE.

3. An integral part of planning involves reviewing the Safety Assessment Reports (SARs) which indentify and breakdown the hazards within the systems and associated with the test/mission. A thorough analysis conducted IAW with AR 385-10, The Army Safety Program, and DA Pam 385-30, Mishap Risk Management, will identify the hazards; mitigate them properly by engineering out the hazards; administrative controls; or, by utilizing proper PPE for the mission. Hazard analyses for the test/mission shall be included in Standard Operating Procedures and staffed through the WSMR Test Center Safety Office for final review and approval.

4. Assessment of the proper PPE for the manned firing activities will specifically address likely hazards such as flash, fire, and blast. Each fielded weapon system identifies the required PPE for that system. The use of TM 10-8400-201-23, which includes descriptions and specification of the appropriate gear based on the assessed need, is required to determine PPE usage for Research, Development, Test and Evaluation activities not otherwise specified. Required and mandated PPE will be procured locally through appropriate channels.

5. The Test Center Safety Office is the point of contact, 678-1019.

ROBERT S. CARTER, SES
Executive Director