

Appendix A
Section II
Glossary

Definition of Terms:

Action level: A concentration designated in Title 29, CFR Part 1910, for a regulated substance which initiates certain required activities such as exposure monitoring and medical surveillance. Also ½ of the permissible exposure limit (PEL) or threshold limit value (TLV) for a chemical, whichever is more stringent.

Acutely toxic: A chemical falling within any of the following toxicity categories: (1) a median lethal dose (LD50) of 50 mg/kg of body weight or less when administered orally to rats, (2) an LD50 of 200 mg/kg of body weight or less when administered to the skin of rabbits, (3) a median lethal concentration (LD50) in air of 200 ppm or less of gas or vapor, or 2 mg/liter or less of mist, fume or dust when administered by inhalation to rats.

Ammunition and explosives area: An area specifically designated and set aside from other portions of an installation for the development, manufacture, testing, maintenance, storage, disposal or handling of ammunition and explosives.

Ammunition and explosives: Includes (but is not limited to) all items of ammunition; liquid and solid propellants; pyrotechnics; high and low explosives; guided missiles, warheads; devices; chemical agent; and components and substances associated therewith, presenting real or potential hazard to life, property and the environment.

Army Motor Vehicle: AMV

Attendant: The employee authorized on the Confined Space Entry Permit to be stationed immediately outside the confined space to monitor the safety of the entrants and provide initial emergency notification to emergency response personnel if required.

Authorized employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance.

Bloodborne pathogens: Infectious agents which can be spread from one individual to another by contact with emitted blood or other contaminated body secretions.

Bonding: The permanent joining of metallic parts to form an electrically conductive path, which will assure electrical continuity and the capacity to conduct safely any current likely to be imposed.

Carcinogen: A chemical or mixture which contains at least 0.1 percent of a chemical which meets one of the following criteria: (1) it is regulated by OSHA as a carcinogen, (2) it is a human carcinogen listed under the category "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP), (3) it is listed under Group I, "carcinogenic to humans," by the International Agency for Research on Cancer (IARC), (4) it is listed in either Group 2A or 2B by IARC or under the category "reasonably anticipated to be carcinogens" by NTP, (5) is a military unique compound classified as a carcinogen by the Center for Health Promotion and Preventive Medicine (CHPPM) or Office of the Surgeon General (OTSG), or (6) it causes statistically significant tumor incidence in experimental animals

in accordance with any of the following criteria: (1) After inhalation exposure of 6-7 hours per day, 5 days per week for a significant portion of a lifetime to doses less than 10 mg/cubic meter, or (2) After repeated skin application of less than 300 mg/kg of body weight per week, or (3) After oral doses of less than 50 mg/kg of body weight per day.

Chemical Hygiene Officer: An employee appointed by the Commander who is qualified by training or experience to provide technical guidance in the development and implementation of the Chemical Hygiene Plan.

Chemical Hygiene Officer: As designated by the Commanding General, WSV, will supply the White Sands Missile Range Chemical Hygiene Officer and will ensure he is qualified by professional training and experience to provide technical guidance in the development and implementation of the Chemical Hygiene Plan.

Chemical Hygiene Plan: A written program developed and implemented by the employer which sets forth policy and procedures capable of protecting employees from the health hazards associated with their workplace IAW 29 CFR 1910.1450(e)(3)

Chemical Hygiene Plan: A written program developed and written by WSMR management which sets forth policy and procedures for protecting employees from the health hazards associated with laboratory workplace operations.

Class A Accident: An Army accident in which the resulting total cost of property damage is \$1,000,000 or more; an Army aircraft or missile is destroyed, missing or abandoned; or an injury and/or occupational illness results in a fatality or permanent total disability.

Class B Accident: An Army accident in which the resulting total cost of property damage is \$200,000 or more, but less than \$1,000,000; an injury and/or occupational illness results in permanent partial disability, or when five or more personnel are hospitalized as inpatients as the result of a single occurrence.

Class C Accident: An Army accident in which the resulting total cost of property damage is \$20,000 or more, but less than \$200,000; a nonfatal injury that causes any loss time from work beyond the day or shift on which it occurred; or a nonfatal occupational illness that causes loss time from work (for example, 1 work day) or disability at any time (lost time case). The day of the accident is not counted as a day away from work.

Class D Accident: An Army accident in which the resulting total cost of property damage is \$2,000 or more but less than \$10,000.

Class E Accident: An Army aviation incident in which the resulting damage cost and injury severity do not meet the criteria for a Class A-D accident. A Class E aviation incident is recordable when mission (either operational or maintenance) is interrupted or not completed. Intent for flight may or may not exist.

Class F Incident: Recordable incidents confined to aircraft turbine engine damage (does not include installed aircraft Auxiliary Power Units (APU) as a result of internal or external FOD, where that is the only damage.

Combustible Liquid: Any liquid having a flashpoint at or above 100 degrees Fahrenheit (F), but below 200 degrees F, except any mixture having components with flashpoints of 200 degrees F or higher, the total volume of which makes up 99 percent or more of the mixture.

Competent person: A person who by qualification, training, or experience has the knowledge and capability suitable to the job, task, or assignment.

Component: Any part of a complete item whether loaded with explosives, inert (not containing explosives), or empty (not filled with explosives).

Compressed Gas: A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 degrees F, or a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 degrees F regardless of the pressure at 70 degrees F.

Confined Space Entry Permit: A written document with multiple levels of approval that defines and controls entry into a confined space. See Appendix A.

Confined Space: An area large enough to enter and work in (storage tank, process vessel, sewer line, manhole, facility crawl space, communications tunnel, etc.) which has one or more of the following characteristics:

Debris: Any solid particle thrown by an explosion or other strong energetic reaction. For aboveground detonations, debris usually refers to secondary fragments.

Deflagration: A rapid chemical reaction in which the output of heat is enough to enable the reaction to proceed and be accelerated without input of heat from another source. Deflagration is a surface phenomenon with the reaction traveling along the surface at subsonic velocity.

Designated Area: An area, which may be used for work involving carcinogens, reproductive toxins or acutely toxic chemicals. A designated area may be the entire laboratory, a controlled area within the laboratory or engineering controls such as a chemical hood.

Detonation: A violent chemical reaction within a chemical compound or mechanical mixture involving heat and pressure. When the material is located on or near the surface of the ground, is normally characterized by a crater.

DOD mishap: An unplanned event or series of events that result in damage to DoD property, occupational illness to DoD military or civilian personnel, injury to DoD military personnel on or off duty, injury to on-duty civilian personnel; damage to public and private property, or injury and illness to non-Dod personnel as a result of DoD operations.

Dud: Explosive munitions which have not armed as intended or which have failed to function after being armed.

Dummy ammunition: Ammunition components having the appearance of actual items and not having any explosives components.

Emergency: For the purposes of this plan, any occurrence such as, but not limited to, equipment failure, container rupture or loss of engineering control which results in the release of a hazardous chemical into the workplace.

Employee: An individual employed in a laboratory that may be exposed to hazardous chemicals in the course of employment.

Empty ammunition: Ammunition or ammunition components void of any type of explosive filler.

Energy isolating device: A mechanical device that physically prevents the transmission or release of energy such as a manually operated circuit breaker, a disconnect switch, a line valve or any similar device used to block or isolate energy.

Engulfment Hazard: A liquid, earth (sand, silt, etc.), or structural component of the confined space which could inadvertently trap or envelop the entrant such that he/she could not perform a self extraction and egress from the work site. This is a life-threatening hazard.

Entrant: The employee authorized on the Confined Space Entry Permit to enter and/or work in the confined space.

Equipment: A general term including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation.

Explosive: A chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature.

Exposed (As applied to communication circuits.): Where the circuit is in such a position that in case of failure of supports or insulation, contact with another circuit may result.

Exposed (As applied to live parts.): Capable of being inadvertently touched or approached nearer than a safe distance by a person. It is applied to parts not suitably guarded, isolated, or insulated.

Fixed ammunition: Ammunition consisting of a cartridge case loaded with propellant and a projectile, which are firmly attached.

Flammable Aerosol: An aerosol that, when tested by the method described in Title 16, CFR, part 1500.45, yields flame projection exceeding 18 inches at full valve opening, or a flash back at any degree of valve opening.

Flammable Gas: A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less, or a gas that at ambient temperature and pressure forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit.

Flammable Liquid: A liquid having a flashpoint below 100 degrees F, except any mixture having components with flashpoints of 100 degrees F or higher, the total of which make up 99 percent or more of the total volume of the mixture. It is also known as a Class I liquid. These are further divided into:(1) Class 1A: Which includes liquids having flashpoints below 73 degrees F and boiling points below 100 degrees F. (2) Class 1B: Which includes liquids having flashpoints below 73 degrees F and boiling points at or above 100 degrees F. (3) Class 1C: Which includes liquids having flashpoints at or above 73 degrees F but below 100 degrees F.

Flashpoint: The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested using the Tagliabue Closed Tester, the Pensky-Martens Closed Tester or the Setaflash Closed Tester.

Fragment: A piece of exploding or exploded munitions. Fragments may be complete items, subassemblies, pieces thereof, or pieces of equipment or buildings containing the items.

Ground: A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

Grounded: Connected to earth or to some conducting body that serves in place of the earth.

Hazard Analysis Working Group (HAWG): A team composed of Range Personnel with expertise in process operations, system operational requirements and hazard analysis methodology. The HAWG membership will be made up of the following representatives:

Hazard Analysis: Systematic and documented review of operations, facilities and equipment to identify potential hazards that could result in injuries to personnel or damage to facilities or equipment.

Hazardous Chemical: A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in an exposed employee. This includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic (blood-forming) systems, and agents which can damage the lungs, skin, eyes or mucous membranes.

Hazardous Noise: Any noise that exposes an employee to a sound level greater than 85 dB when measured on the A scale of a calibrated standard sound level meter.

Hazardous Operation: 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.

Hearing Protection Device: A device, most often worn over ears, used to attenuate noise.

High Risk Operations: Experimental procedures involving the manipulation, handling or reaction of hazardous chemicals where the potential for release of gas, vapor or aerosol contamination is high. This category includes but is not limited to:(1) Rapid exothermic reactions (2) Transfer of electrostatic powders (3) Heating, mixing or transfer of volatile chemicals (4) Pressurized operations where there is potential for uncontrolled release (5) Work involving aerosol generation

Installation Safety Office: ISO

Laboratory Hood: A type of engineering control enclosed on five sides with a movable sash or fixed partial enclosure on the remaining side designed to draw air from the laboratory into the enclosure to prevent or minimize the escape of contaminants into the laboratory space.

Laboratory Scale: Work with substances in which the chemical quantities and equipment used for reactions, transfers, and other handling are designed to be easily and safely manipulated by one person.

Laboratory Use: The handling or use of chemicals in which: (1) Chemical manipulations are done on a "laboratory scale." (2) Multiple procedures or chemicals are used. (3) Procedures are not part of a production process. (4) "Protective laboratory practices and equipment" are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

Laboratory: A facility or individual room where the "laboratory use" of hazardous chemicals occurs.

Laboratory: A facility or individual room where the "laboratory use" of hazardous chemicals occurs.

Launch pads: The load-bearing base, apron, or platform upon which a rocket, missile, or space vehicle and its launcher rest during launching.

Lockout Device: A device that utilizes a positive means, (i.e., lock, lock and hasp, etc.) to hold an energy isolating device in a safe position for the purpose of protecting personnel by preventing the energizing of a machine or equipment.

Low Risk Operations: Experimental procedures where the potential for release of gas, vapor or aerosol contamination is remote.

Mass-detonating explosives: Ammunition or explosives, almost all of which can be expected to explode virtually instantaneously when a small portion is subject to fire, to severe concussion or impact, to the impulse of an initiating agent, or to the effect of a considerable discharge of energy. All Hazard Class and Division (HD) 1.1 and those HD 1.2.1 with a maximum credible event (MCE) listed in the Joint Hazard Classification System.

Medical Consultation: A consultation which takes place between an employee and a licensed physician for the purpose of determining what medical exams or procedures are appropriate in cases where a significant exposure to a hazardous chemical may have taken place.

Noise: Unwanted sound

Noncombustible: Not burnable in the ordinary sense of the word.

Non-DOD component: Any entity (government, private or corporate) that is not a part of the Department of Defense.

Nonfatal Injury: Injury that causes any loss of time from work beyond the day or shift on which it occurs.

Nonfatal Occupational Illness: Illness that causes time from work or disability at any time (lost time case).

Normal maintenance: Work performed on ammunition to prevent deterioration and to correct minor defect not requiring renovation or major modification operations.

Occupational Illness and Disease: An illness or disease caused by environmental factors, the exposure to which is peculiar to a certain process, trade, or occupation and to which an employee is not ordinarily subjected or exposed outside of or away from such employment or duty.

OSHA: Occupational Safety and Health Administration

Oxidizer: A chemical other than a blasting agent or explosive as defined in Title 29 CFR, part 1910.109 (a), that initiates or promotes combustion in other material, thereby causing fire either by itself or through the release of oxygen or other gases.

Permissible Exposure Limit: An occupational standard promulgated by OSHA as regulatory requirement. The PEL can be an 8-hour TWA, a ceiling value or a 15-minute STEL. A list of PEL's is found in Title 29 CFR, part 1910, subpart z.

Practice ammunition: Ammunition or ammunition components used for training. Practice ammunition simulates a service item in weight, design, and ballistic properties. A practice round may be inert or have explosive filler.

Protective Laboratory Practices and Equipment: Those laboratory procedures, engineering/administrative controls, work practices and protective clothing and equipment used to minimize employee exposure to hazardous chemicals.

Pyrotechnic material: The explosive or chemical ingredient, including powdered metals, used in the manufacture of military pyrotechnics.

Qualified Person: One familiar with the construction and operation of the equipment and the hazards. An employee may be considered “qualified” with regard to certain equipment in the workplace, but “unqualified” as to other equipment, based on his training.

Reasonable time: In accordance with Occupational Safety and Health Administration (OSHA) guidance, White Sands Missile Range has established as being within 3 to 4 minutes. This definition is used with the "Two Man Rule", Defibrillator placement, and Medical Support discussed in this regulation.

Recordable Injury: All accidents occurring on and in the immediate area of WSMR. Reportable Accident: An accident which meets the definition of AR 385-40 2-2 which includes but is not limited to:

Reproductive Toxin: A chemical which affects the reproductive system and may produce chromosomal damage (mutations) and adverse effects on the fetus (teratogenesis). For the purpose of this guidance any chemical with a mutagenic or teratogenic quotation in the Registry of Toxic Effects of Chemical Substances (RTECS) shall be considered a reproductive hazard.

Restricted area: Any area, usually fenced, at an establishment where the entrance and egress of personnel and vehicular traffic are controlled.

Risk Assessment Code (RAC): A code assigned to each operation of an overall process to assign the probability of potential loss in terms of hazard severity, accident probability and exposure to hazard. (See AR 385-10)

Rocket motor: That portion of the complete rocket, which is loaded with propellant.

Rocket: A motor, which derives its thrust from ejection of hot gasses, generated from burning propellants.

Safety Assessment Report (SAR): A formal summary of the safety data collected during the design and development of the system.

Senior Commander: The senior general officer or equivalent at the installation who exercises designated command authorities and is the Secretary of the Army/CSA representative at the installation

Subsystem: A system that combines with other systems to make a higher order system.

System Safety Engineer: An engineer who is qualified by training and/or experience to perform system safety engineering tasks.

System Safety Engineering: An engineering discipline requiring specialized professional knowledge and skills in applying scientific and engineering principles, criteria, and techniques to identify and eliminate hazards or reduce the risk associated with the hazard.

System Safety Management Plan: A management plan that defines the system safety program requirements of the government. It ensures the planning, implementation, and accomplishment of system safety tasks and activities consistent with the overall program requirements.

System Safety Management: A management discipline that defines system safety program requirements and ensures the planning, implementation and accomplishment of system safety tasks and activities consistent with the overall program requirements.

System Safety: The application of engineering and management principles, criteria, and techniques to optimize safety within the constraints of operational effectiveness, time, and cost throughout all phases of the system or facility life cycle.

System: A composite, at any level of complexity, of personnel, procedures, materials, tools, equipment, facilities, and software. The elements of this composite entity are used together in the intended operational or support environment to perform a given task or achieve a specific purpose, support, or mission requirement.

Tagout Device: A prominent warning device that is capable of being securely attached for the purpose of protecting personnel that forbids the operation of an energy isolating device and identifies the individual and organization tagging the device.

Threshold Limit Value (TLV): Airborne concentrations of a substance published by the ACGIH to which it is believed workers may be exposed day after day with no adverse effect. The TLV's are advisory in nature; however, DA policy uses the TLV as regulatory policy when it is more stringent than the PEL for a specific chemical. A list of TLV's is found in Title 29 CFR, part 1910, subpart z.

Toxic Chemical: A chemical falling within any of the following toxicity categories: (1) an LD50 of more than 50 mg/kg but not more than 500 mg/kg of body weight when administered orally to rats, (2) an LD50 of more than 200 mg/kg but not more than 1000 mg/kg of body weight when administered to the skin of rabbits, (3) an LD50 in air of more than 200 ppm but not more than 2000 ppm of gas or vapor, or more than 2 mg/liter but not more than 20 mg/liter of mist, fume or dust when administered by inhalation to rats.

Traumatic Injury: A wound or other condition of the body caused by an external force, including stress and strain.

Unexploded ordnance (UXO): Explosive ordnance, which has failed to function as designed.

Unqualified Person: One who has not received any classroom or on-the-job training on the safety related work practices per 29 CFR 1910.331.

Warhead: That portion of a rocket or guided missile containing the high explosives charge or other destructive agent.

Work Injury: An injury to an employee arising out of or in the course of employment or performance of duty. This includes occupational illness and diseases.

Appendix A - Forms Pertaining to Chapters

Section III

Forms Pertaining to:

DA FORM 4753 Notice of Unsafe or Unhealthful Working Conditions (For Posting)	Chapter 4
DA Form 4754 Violation Inventory Log	Chapter 4
DA FORM 4755 Employee Report of Alleged Unsafe or Unhealthful Wrkng Cond.	Chapter 4
Employee Safety and Health Training Record	Chapter 4
DA Form 1118	Chapter 5
DA Form 1256	Chapter 5
Chemical and Hazardous Materials Quick Check for the Worksite	Chapter 6
Additional HAZCOM forms in Word format	Chapter 6
HSHM-MHC-7 Occupational Health Clinic Permit	Chapter 7
STE FORM 1416 Record of Injury	Chapter 7
DA FORM 285 US Army Accident Report	Chapter 7
DA FORM 285-AB-R US Army Abbreviated Ground Report	Chapter 7
DA FORM 2397-AB-R Abbreviated Aviation Accident Report	Chapter 7
Standing Operating Procedures Concurrence and Title Cover Pg.	Chapter 8
EWS 1178 Hazard Analysis Form	Chapter 8

STEWS-NRES-F-22 White Sands Missile Range Confined Space Entry Permit	Chapter 13
Ammunition and Explosive Safety Warning Sign/Decal Symbols	Chapter 14
SF Form 78	Chapter 16
DA Form 1687	Chapter 16
DD Form 314	Chapter 16
SOP for Ionizing & Non-Ionizing Radiation with Hazard Analysis (Form EWS 1178)	Chapter 21

Appendix B

Motorpool Safety

Safe motorpool operations contribute to an effective maintenance program. Everyone must be involved in the success of the installation safety program. Safety becomes second nature when commanders, directors, supervisors, leaders, and equipment operators enforce common sense safety rules. These rules include the following:

- a. No smoking in shop areas.
- b. Proper storage of flammables/nonflammables.
- c. Clean and well lit ventilated work areas.
- d. Use of ground guides when backing.
- e. Enforce speed limits.
- f. Properly ground electrical equipment.
- g. Train in use of fire extinguishers.
- h. Use protective devices for eyes and ears.
- i. Secure loose parts, tools, and loads before vehicle operations.
- j. Inspect tools and equipment before attempting repairs.
- k. Remove the battery ground cable while working in the engine compartment.
- l. Use only approved cleaning solvents, never use gasoline.
- m. Use protective clothing.
- n. Use chock blocks and jack stands.
- o. Properly use tools.
- p. Properly recover and storage used POL.
- q. Practice POL spill control and other environmental disposable items.
- r. No horseplay allowed.
- s. Properly use compressed air and hydraulic equipment.
- t. Use safety cages when inflating tires.
- u. No contact lenses are worn while using welding equipment.
- v. Always use extreme caution when working with asbestos and other hazardous materials; ensure hazardous areas are marked.
- w. No privately owned vehicles are allowed to be driven or parked in an installation motor pool.

Appendix B through X Table of Contents
Forms Listing - (Forms and Instructions)

Appendix B:	DA FORM 4755	Employee Report of Alleged Unsafe or Unhealthful Working Conditions
Appendix C:	DA FORM 4753	Notice of Unsafe or Unhealthful Working Conditions (For Posting)
Appendix D:		Employee Safety and Health Training Record
Appendix E:		Risk Management Steps
Appendix F:		Job Hazard Analysis Sample - Risk Management
Appendix G:		VPP Management Leadership and Employee Involvement
Appendix H:		Hazard Communication Program
Appendix I	HSHM-MHC-7	Occupational Health, McAfee Clinic Permit
Appendix J	STE form 1416	Record of Injury - Accident Form
Appendix K	DA Form 285	U.S. Army Accident Report
Appendix L (AGAR)	DA Form 285-AB-R	U.S. Army Abbreviated Ground Accident Report
Appendix M	DA Form 2397-AB-R	Abbreviated Aviation Accident Report
Appendix N Report (CCIR)		Format for Commander's Critical Information
Appendix O slides		Fatality Review Board (FRB) - Preparing FRB
Appendix P		WSMR Accident Form
Appendix Q		SOP for Explosive Hazards
Appendix R		SOP for Non-Explosive Hazards
Appendix S		Hazard Analysis Form
Appendix T		WSMR Confined Space Entry Permit
Appendix U		Chemical Hygiene Plan

Appendix V
Licensing

Chemical and Biological Simulant Operations

Appendix W

Contracting Safety

Appendix X

Motorpool Safety

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 (s) 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	

APPENDIX C

APPENDIX D

Appendix E

Appendix E

Risk Management (See Sample Job Hazard Analysis, Appendix F)

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 (for each operation step)

Note: The first 3 steps constitute the Job Hazard Analysis and must be performed for each operation step. The Risk Assessment (identification and assessment of hazards) is the first 2 steps of the risk management 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
- Etc.....

Examples of training:

Laser Safety	Indoor Air Quality
Asbestos	Industrial Hygiene
Back Injury	Lead
Chlorine Safety	Lockout/Tagout
Confined Space	Machine Safety
Electrical Safety	Personal Protective Equipment (PPE)
Ergonomics	Pesticide
Fall Protection	Refrigerants
Fire Protection	Trenching and Shoring
Forklift Safety	Ladders/Scaffolds
Welding and Cutting	
General Workplace Safety	
Hand and Wrist Injury	
Hand Tool Safety	
Hazard Communication (chemicals in the workplace)	
Hearing Safety	

d. For each hazard, determine the effect of each hazard.

What are the some causes of hazards?

- Death
- Personal Injury
- Fire
- Etc.....

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) - 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
- Etc.

5. Supervise and Evaluate

- Continuous assessment - ensures that subordinates understand
- Constant supervision - ensures subordinates are complying with implementation of controls
- Enforce standards and controls
- Etc.
- Continually apply Risk Management Steps

Risk Assessment Matrix

		HAZARD PROBABILITY					
		FREQUENT	PROBABLE	OCCASIONAL	REMOTE	IMPROBABLE	
		LIKELY TO OCCUR FREQUENTLY DURING THE LIFE OF THE OPERATION, PROCESS, OR PROJECT	WILL OCCUR SEVERAL TIMES DURING THE OPERATION, PROCESS, OR PROJECT	LIKELY TO OCCUR SOMETIME DURING THE OPERATION, PROCESS, OR PROJECT	UNLIKELY BUT POSSIBLE TO OCCUR DURING THE OPERATION, PROCESS, OR PROJECT	SO UNLIKELY IT IS ASSUMED OCCURRENCE MAY NOT BE EXPERIENCED	
		A	B	C	D	E	
HAZARD SEVERITY	CATASTROPHIC DEATH OR SYSTEM LOSS	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	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	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	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).

Appendix E (continued) - 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.

TEST RISK ASSESSMENT MATRIX (TABLE 13-1 ATEC 385-1 Regulation).

			HAZARD PROBABILITY				
			FREQUENT	LIKELY	OCCASIONAL	SELDOM	IMPROBABLE
			LIKELY TO OCCUR FREQUENTLY DURING THE TEST	WILL OCCUR SEVERAL TIMES DURING THE TEST	LIKELY TO OCCUR SOMETIME DURING THE TEST	UNLIKELY BUT POSSIBLE TO OCCUR DURING THE TEST	SO UNLIKELY IT IS ASSUMED OCCURRENCE MAY NOT BE EXPERIENCED
			A	B	C	D	E
HAZARD SEVERITY	CATASTROPHIC DEATH OR SYSTEM LOSS	I	EXTREMELY HIGH		HIGH		
	CRITICAL SEVERE INJURY OR MAJOR SYSTEM DAMAGE	II	HIGH		LOW		
	MARGINAL MINOR INJURY OR MINOR SYSTEM DAMAGE	III	MEDIUM		LOW		
	NEGLIGIBLE LESS THAN MINOR INJURY OR SYSTEM DAMAGE	IV	LOW				

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 F

Job Hazard Analysis

Safety Operating Procedure for: **Forklift Operation**

Date: 25 Mar 2004

Operation Steps (Components)	Hazard	Cause	Effect	Risk Level Before	Mitigation	RISK Level After
Mount forklift (or dismount)	Slip, trip, or fall	Lack of focus on operation	Slip Possible Injury	EXTREMELY HIGH RAC II-A	Observe others for attentiveness to operation and remind during safety meetings. Do not allow use of the "Walkman" while operating forklift.	
		Unsafe mount (or dismount)	Fall Possible injury		Face the vehicle and mount on the side where steps are provided. Never jump off (or on) Use a three-point stance (always have both hands and one foot or two feet and one hand in contact with the unit).	
		Slippery shoes	Slip Possible Injury		Wear proper shoes (oil resistant and non- slippery).	
		Slippery surfaces	Slip Possible Injury		Keep surfaces free of water, grease, oil, etc.	

		Clothes, hair, or jewelry gets caught on machine.	Fall Possible Injury		Do not wear loose clothing or dangling jewelry. Restrain long hair.	
		Trip on objects during mounting	Fall Possible Injury		Do not mount fire extinguisher, cables, etc in mounting path.	LOW RAC IV-E
Start and drive forklift to lift site	Power Train Malfunction	Low fluid levels	Forklift wheels lock Possible injury	EXTREMELY HIGH RAC II-A	Inspect fluid levels including fuel before energizing. Review maintenance log before use. Wear splash goggles and rubber gloves when inspecting fluid levels to prevent exposure to chemicals.	MEDIUM RAC II-D
	Hydraulic Lift Malfunction	Leaks	Forks lock Possible Injury	EXTREMELY HIGH RAC II-A	Visually inspect hydraulic system for leaks before using. Fix leaks prior to usage.	MEDIUM RAC II-D

	Forks make inappropriate contact with personnel or facilities	Forks too high	Possible injury or death	HIGH RAC I-C	Lower forks to a safe level but not too low to impact low level offsets and obstructions. Reduce speed and sound horn at cross aisles and other locations where vision is obstructed.	MEDIUM RAC I-E
	Forklift overturns	Speed causes instability	Possible injury or death	HIGH RAC I-C	Drive slowly and as if other vehicles and people cannot see or hear you.	
		Surface conditions cause instability	Possible injury or death		Keep traveling surfaces clear of oil, grease, water, etc.	
		Lack of training	Loss of vehicle control Possible Injury		Obtain forklift training Document training Review training when unsafe practices are observed.	MEDIUM RAC I-E
	Forklift falls off dock	Operator operating close to edge of dock	Possible injury or death	HIGH RAC I-C	Use spotter when operating on dock. Maintain a safe distance of 10 feet from the edge of ramps or platforms while on any elevated dock or platform.	
		Lack of	Loss of		Obtain forklift training	MEDIUM

		training	vehicle control		Document training	RAC I-E
			Possible Injury		Review training when unsafe practices are observed.	
Position forks beneath load to be lifted	Forks impact item or container	Forklift width and level not properly adjusted	Damage to item or container Possible injury	EXTREMELY HIGH RAC II-A	Slow down when approaching payload. Adjust fork width and level to match load. Use spotter. Stop when the tips of the forks are about a foot away from the load. Slowly drive forward until the load is resting against the backrest.	MEDIUM RAC II-D
Lift intended load	Forklift overturns	Load too heavy, forks contacting other-than-intended load, or forks stop too abruptly at top of mast.	Possible injury or death	HIGH RAC I-C	Verify gross load weight and forklift capacity. Use a spotter. Lift load only high enough to clear whatever is under it. Do not raise forks to limit (allow one foot below upper limit). Markings should be placed on forklift mast to indicate stop point. Tilt mast back to stabilize the load.	MEDIUM RAC I-E

	Payload shifts or falls.	Load weight not placed correctly	Damage to load or possible injury or death	EXTREMELY HIGH RAC II-A	Verify load is secured before lift begins. Forklift operator must wear hardhat and safety shoes.	MEDIUM RAC II-D
Move load	Payload shifts or falls during transport or forklift overturns.	Sudden starts or stops	Damage to payload or possible injury	EXTREMELY HIGH RAC II-A	Drive slowly with gradual acceleration, turns and stops. Do not lower or lift load when the forklift is in motion. Lower forks to a safe level but not too low to impact low level offsets and obstructions.	MEDIUM RAC II-D
	Forklift contacts objects or personnel	Cross aisles or blind corners in path of operator	Damage to payload or possible injury	EXTREMELY HIGH RAC II-A	Reduce speed and sound horn at cross aisles. Reduce speed at locations where vision is obstructed.	MEDIUM RAC II-D

	Payload or forklift makes contact with wall, overhead obstacle, or other inappropriate object	Payload too large for route	Damage to payload or possible injury	MEDIUM RAC III-B	Determine payload maximum height and width and plan move route to accommodate load size. Use spotter to observe route and warn others of the hazards.	LOW RAC III-D
Position payload and remove forks	Payload unstable or forks will not retract.	Load setting on unlevelled surface	Forks cannot safely be removed Possible Injury	EXTREMELY HIGH RAC II-A	Seek assistance and spacers to stabilize/level payload.	
		Load setting on object	Forks cannot safely be removed Possible Injury		Check area below forks before lowering.	MEDIUM RAC II-D

Store and secure forklift	Forklift becomes obstruction, trip or fire hazard	Forklift blocking fire exit, or thorough-fare	Possible injury	EXTREMELY HIGH RAC II-A	Park forklift in approved location, lower forks to the lowest level. De-energize forklift in the case of battery powered forklifts and follow approved charging procedures.	MEDIUM RAC II-D
Review and modify this job hazard analysis to fit site-specific and forklift type requirements	Failure to review and modify	Failure to place safety first	Accidents	EXTREMELY HIGH RAC II-A	Review and modify (if necessary) Job Hazard Analysis frequently	MEDIUM RAC II-D

Appendix G

Appendix G

I. 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.
6. Emergency telephone numbers.
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.

Appendix H

APPENDIX H HAZARD COMMUNICATION PROGRAM

The Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200 applies to all work operations at White Sands Missile Range. Personnel have the potential to be exposed to hazardous substances under normal working conditions or during an emergency situation.

All personnel will be informed of the contents of the Hazard Communication Standard, the hazardous properties of chemicals with which they work, safe handling procedures, and measures of protection.

List of Hazardous Chemicals

A complete listing of all hazardous chemicals used on White Sands Missile Range is maintained by the Joint Hazardous Material Management Center (JHMMC/Hazmin). Each shop and work area will prepare a hazardous material inventory list and update the list as necessary.

Each shop/work area should determine whether any of these chemicals found present in the work place are listed in their hazardous material inventory list. (CPL2-2.45 and OSHA 1910.119 Appendix A)

29 CFR 1910.1450, Occupational Exposures to Hazardous Chemicals in Laboratories. Quality control laboratories are usually adjuncts of production operations and are not covered under the laboratory standard, but rather would be covered under the HCS. For other laboratories covered under the laboratory Standard, the requirements of the HSC are superseded.

Outside Contractors. Each contractor bringing chemicals on site must provide the appropriate hazard information on these substances, including the labels used and the precautionary measures to be taken

Commander's Guidance 02-97 dated 18 Mar 1997; "I.M.P.A.C.T. (VISA) Purchases of Hazardous Materials" provides policy on the purchase of hazardous materials. All hazardous materials are to be obtained through the JHMMC/Hazmin Center. Hazardous material may not be purchased with an I.M.P.A.C.T. (Visa) card.

Material Safety Data Sheet (MSDS)

MSDS's are required for all hazardous materials in the workplace with the exception of employees personal care or hygiene items, medications, and other items used in the same manner and quantity as would be used in a household setting and that are not part of assigned duties. MSDSs provide specific information on the chemical used. A binder containing the hazardous material inventory, an MSDS for each identified hazardous material and a copy of this appendix will be readily available to all workers on all shifts, including those working uprange, overtime or on weekends. An index located at the front of the MSDS binder will be used to reference, by chemical name, the appropriate MSDS.

Note: The MSDS will be a fully completed OSHA Form 174 or equivalent. WS-ES-S will ensure that each work site maintains an MSDS for hazardous material in that area.

Labels and Other Forms of Warning

Labeling Requirements. (1) The name of the chemical, the name, address, and emergency phone number of the company that made or imported the chemical, (2) The physical hazards (will it

explode or catch fire? Is it reactive? Is it radioactive?), (3) Any important storing or handling instructions, (4) The health hazards (is it toxic? Could it cause cancer? Is it an irritant?), (5) Target organ affected by the chemical (kidneys, liver, etc.), (6) the basic protective clothing, equipment and procedures that are recommended when working with this chemical (7) Must be in English and legible, and (8) Label identity must cross-reference with MSDS and Hazardous chemical list.

Carcinogen Labeling. Those chemicals identified, as being “known to be carcinogenic” and those substances that may “reasonably be anticipated to be carcinogenic” by OSHA, International Agency for Research on cancer (IARC) or the National Toxicology Program (NTP) **must** have carcinogen warnings on the label and information on the MSDSs.

In House labeling. The key to evaluating the effectiveness of any alternative labeling method is to determine whether it provides an immediate visual warning of the chemical hazards of the workplace, identifies the applicable chemical and container, and conveys the appropriate hazard warnings.

All hazardous chemicals at the work site are to be properly labeled and updated, as necessary. Labels will list, at least, the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer, importer or other responsible party. If there are a number of stationary containers in a work area that have similar contents and hazards, signs will be posted on them to convey the hazard information. Pipes and piping systems will be labeled identifying the contents and the hazard (e.g. “hot water,” “air-100psig,” sulfuric acid,” etc.). Arrows must be used with labels to indicate the direction of flow.

When transferring chemicals from a labeled container to a portable container that is intended only to a workers immediate use, no labels are required on the portable container. "Immediate use" means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Non-Routine Tasks

When an employee is required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), a special training session will be conducted to inform the employee of the hazardous chemicals to which they may be exposed and the proper precautions to take to reduce or avoid exposure. Contact WS-ES-S for specifics.

Training

Every person who works with or is potentially exposed to hazardous chemicals will receive initial training on the Hazard Communication Standard. Training will also be performed when a new hazard is introduced into the work area, or whenever an employee is assigned to perform a non-routine task. The training program should use both audiovisual materials and classroom training. Documentation of the training is required. Ensure documentation lists the type of training, subjects covered, presenter, date of training, and the signature of employees who attend the training. Regular safety meetings will also be used to review the information presented in the initial training.

Training will emphasize the following items:

- Summary of the Hazard Communication Standard and this written program.
- Employees rights under the standard.

- The labeling system used.
- Where and how to obtain MSDSs.
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in labeled pipes)
- Physical hazards of chemicals (e.g., potential for fire, explosions, etc.).
- Health hazards, including signs and symptoms of exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical.
- Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance; work practices or methods to ensure proper use and handling of chemicals; and procedures for emergency response).
- Work procedures to follow to ensure protection when cleaning hazardous chemical spills and leaks.

Though retraining is required when the hazard changes or when a new hazard is introduced into the workplace, it is the White Sands Missile Range policy to provide training regularly in safety meetings to ensure the effectiveness of the program.

Additional Information

All employees, or their designated representatives, can obtain further information on this written program, the Hazard Communication Standard, applicable MSDSs and chemical information by contacting WS-ES-S.

Hazardous Chemicals Received From the HAZMIN Center

Any hazardous material received from the HAZMIN Center will have an MSDS that corresponds to the exact part number and manufacturer. In the event the correct MSDS is not received, it should be requested from the HAZMIN Center. If the correct MSDS cannot be provided, do not receive or use the item. Request a substitute item. If a substitute item is not available, the employee will notify his/her supervisor and request assistance.

White Sands Organizations and Other Installations

White Sands organizations on another installation, i.e. Holloman AFB, Kirtland AFB, EPG, must also comply with the guidance and regulations of those installations.

QUICK CHECK FOR THE WORKSITE

CHEMICALS/HAZARDOUS MATERIALS:

- All containers must be labeled. All drinking jugs should be labeled as drinking water only. All fuel cans must be labeled as to the contents (Mogas, Diesel, etc.). All spray bottles and food containers must be labeled.
- When transferring chemicals from a labeled container to a portable container that is intended only to a workers immediate use, no labels are required on the portable container. "Immediate use" means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.
- Fuel must be stored in approved safety cans with a yellow band around the can and its contents clearly marked.
- All hazardous chemicals must be properly stored in flammable or corrosive cabinets. Cabinets must be labeled, "Flammable Storage" and "Keep Fire Away".
- All labels must be readable and in English.
- A current hazardous material inventory and an MSDS (for every chemical) must be readily available on the work site.
- Chemicals may not be stored in an eating area, with the exception of kitchen cleaning supplies that are to be stored away from food or food preparation items.
- Spray cans must be in serviceable condition. They cannot be rusted, dented, or have the button missing.
- Keep all hazardous chemicals out of direct sunlight, including argon, acetylene, and oxygen.
- No open containers.

Appendix I

OCCUPATIONAL HEALTH CLINIC PERMIT		CASE NO:	
TO: MCAFEE USA HEALTH CLINIC		DATE:	
EMPLOYEE'S NAME:		SOCIAL SECURITY NO:	
JOB TITLE:		DUTY PHONE:	
SUPERVISOR'S NAME:		ORGANIZATION:	
REASON FOR REFERRAL:			
MEDICAL OFFICER'S REPORT		TIME REPORTED:	TIME RELEASED:
OCCUPATIONAL		OTHER:	
<input type="checkbox"/> /YES <input type="checkbox"/> /NO		<input type="checkbox"/> /QUESTION-ABLE	
DISPOSITION:		RETURN FOR FURTHER TREATMENT:	
<input type="checkbox"/> /RW <input type="checkbox"/> /LD <input type="checkbox"/> /SH			
RESTRICTIONS/REMARKS:			
SIGNATURE:			
MEDICAL REPRESENTATIVE			

HSHM-MHC-7
3 Mar 83

DATE TO REPORT FOR RE-TREATMENT:	TIME			
	SUPERVISOR	HEALTH CLINIC		SUPERVISOR
	LEFT WORK	ARRIVED	LEFT	RETURNED TO WORK
DISCHARGED, TREATMENT TERMINATED:		DATE:	HOUR:	
SIGNED BY:				
MEDICAL OFFICER				

Appendix J

RECORD OF INJURY					DCS ST87-102
SEE PROMPT STATEMENT REVERSE SIDE					
SECTION I - To be completed by Supervisor and delivered by patient, if possible, to dispensary or first aid station					
1. LAST NAME - FIRST NAME - MIDDLE INITIAL (Person Injured)		2. GRADE	3. SERVICE/SOCIAL SECURITY ACCT NO.		4. AGE
5. OCCUPATION OR DUTY WHEN INJURED	6. INJURY		7. RETURN TO DUTY		8. EXACT LOCATION WHERE INJURY OCCURRED
	HOUR	DATE	HOUR	DATE	
9. HOW INJURY OCCURRED (exactly what injured was doing and what caused the injury)					
10. UNIT OR ORGANIZATION		11. NAME OF SUPERVISOR, MILITARY OR CIVILIAN (print or type)		12. TELEPHONE	
SECTION II - To be completed by Medical Officer or attendant for information of the Supervisor and others, as appropriate					
1. NATURE AND EXTENT OF INJURY OR OCCUPATIONAL ILLNESS					
2. DISPOSITION (Check one)					
<input type="checkbox"/> RETURN TO REGULAR DUTY <input type="checkbox"/> RETURN TO WORK OF LIGHT NATURE <input type="checkbox"/> HOSPITAL <input type="checkbox"/> OTHER (Specify) <input type="checkbox"/> SEND HOME OR TO QUARTERS					
3. ESTIMATED ABSENCE IN DAYS BEYOND DAY ON WHICH INJURY OCCURRED		4. NAME OF MEDICAL OFFICER OR ATTENDANT (Print or type)		5. TELEPHONE	
<i>NOTE: Sections III and IV should not be completed before Section II.</i>					
SECTION III - SUPERVISOR'S ACCIDENT ANALYSIS					
<i>(This list of general causes is provided to help the supervisor identify specific accident causes which can be corrected.)</i>					
ENVIRONMENTAL		PERSONAL FACTORS			
1. UNSAFE METHODS, PROCESSES, PROCEDURES.		6. PHYSICAL CONDITION - VISION, AGE, WEIGHT, FATIGUE.			
2. INADEQUATE SAFEGUARDS, SAFETY EQUIPMENT.		7. EMOTIONAL - ANGER, FEAR, RESENTMENT, WORRY.			
3. IMPROPER OR DEFECTIVE EQUIPMENT.		8. LACK OF SKILL OR KNOWLEDGE.			
4. HAZARDOUS LOCATION		9. ATTITUDE - INDIFFERENT, BELLIGERENT.			
5. POOR HOUSEKEEPING		10. UNSAFE WEARING APPAREL OR MANNER OF DRESS.			
USING THE ABOVE GUIDANCE, STATE SPECIFIC CAUSES					
SECTION IV - SUPERVISOR'S RECORD OF CORRECTIVE ACTION TAKEN (Types of corrective action that may be appropriate are: Supervision, Education, Training, Administrative Action, Engineering, Design, Repair, Maintenance.)					
USING THE ABOVE GUIDANCE, STATE SPECIFIC ACTIONS TAKEN TO PREVENT RECURRENCE					
SECTION V - SAFETY OFFICE DISPOSITION OF REPORT					
<input type="checkbox"/> Recordable (DA FM 285 required) <input type="checkbox"/> NON-recordable (minor/first aid type injury) <input type="checkbox"/> Other Reporting Required (DA FM 285-1 etc)					
				Signature _____	

Appendix K

U.S. ARMY ACCIDENT REPORT For use of this form, see AR 385-40, the proponent agency is OCSA	FOR USASC USE ONLY	Requirement Control Symbol CSOCS-308
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SECTION A - ACCIDENT INFORMATION									
1. CHECK ONE <input type="checkbox"/> a. INITIAL <input type="checkbox"/> b. CHANGE		2. UIC (Unit Identification Code) (6-Digit Code of Unit Having Accident)		3a. UNIT NAME AND MILITARY ADDRESS			3b. BRANCH (Armor, Infantry, etc.)		
4. DATE OF ACCIDENT a. YR. b. MO. c. DAY			5. TIME OF ACCIDENT (Local Military Time)	6. PERIOD OF DAY (Check one) <input type="checkbox"/> a. Day <input type="checkbox"/> b. Night	7. ACCIDENT OCCURRED (Check one) <input type="checkbox"/> a. On Post <input type="checkbox"/> b. Off Post	8. IF ON POST, NAME OF INSTALLATION/FACILITY		9. ACCIDENT OCCURRED DURING (Check one) <input type="checkbox"/> a. Combat <input type="checkbox"/> b. Non-Combat	
10. WERE EXPLOSIVES OR AMMUNITION INVOLVED OR PRESENT? <input type="checkbox"/> Yes (See Instruction Book) <input type="checkbox"/> No				11. EXACT LOCATION OF ACCIDENT (Detailed enough to locate site) (State type of location.)					

SECTION B - PERSONNEL INFORMATION																													
12. NAME (Last, First, MI)			14. AGE			27. CLASSIFICATION AT TIME OF ACCIDENT (Check)		28. CAUSE OF INJURY/OCCUPATIONAL ILLNESS (Check the most serious)																					
13. SOCIAL SECURITY NUMBER (SSN)		15. SEX (Check) <input type="checkbox"/> a. Male <input type="checkbox"/> b. Female	16. RANK OR GRADE	17. MOS OR JOB SERIES	19. DUTY STATUS AT TIME OF ACCIDENT (Check one) <input type="checkbox"/> a. On Duty <input type="checkbox"/> b. Off Duty	20. FLIGHT STATUS (Check one) <input type="checkbox"/> a. Yes <input type="checkbox"/> b. No	21. CONTINUOUS DUTY (hrs.) (Without sleep)	22. HRS. SLEEP IN LAST 24 (Without sleep)	23. DAYS LOST (Est. no. of days lost from work; not counting day of injury. Bed rest/on quarters.)	24. DAYS HOSPITALIZED (Est. no. of days hospitalized receiving treatment; not for observation only.)																			
18. ADDRESS (Use Official Address for All Military or Government Personnel) (If different than block 3, add UIC.)			25. DAYS OF RESTRICTED WORK ACTIVITY (Est. no. of days person cannot perform regular duties; light duty/profile.)	26. SEVERITY OF ILLNESS/INJURY (Check one)	a. Fatal	b. Permanent Total Disability. Person can never again do gainful work.	c. Permanent Partial Disability. Person loses or can never again use a body part	d. Days Away from Work. Person misses one or more workdays; bed rest/on quarters.	e. Restricted Work Activity. Person is temporarily unable to perform regular duties; light duty/profile.	f. First Aid Only. Person has one-time treatment of minor injury. (No lost work days.)	g. No Injury.																		
a. Active Army	b. Army Civilian	c. Army Contractor	d. Nonappropriated Fund (NAF)	e. Other U.S. Military	f. ROTC	g. Dependent	h. NGB Tech	i. NGB IDT	j. NGB AT	k. NGB ADSW	l. NGB AGR	m. NGB ADT	n. USAR IDT	o. USAR AT	p. UAR ADT	q. USAR FTM	r. Foreign Nat. Direct Hire	s. Foreign Nat. Indirect Hire	t. Foreign Nat. KATUSA	u. Foreign Mil. Attached to the U.S. Army	v. Public	w. Not reported							
a. Struck Against	b. Struck By	c. Fell from Elevation	d. Fell from Same Level	e. Caught In/ Under/ Between	f. Rubbed/abraded	g. Bodily Reaction	29. BODY PART(S) AFFECTED (Check primary) (No more than 3)			a. Body (General)	b. Head	c. Forehead	d. Eyes	e. Nose	f. Jaw	g. Neck	h. Trunk	i. Chest	j. Heart	k. Back	l. Shoulder	m. Arm	n. Wrist	o. Head	h. Overexertion	i. Exposure	j. External Contact	k. Ingested	l. Inhaled
a. Burns (Chemical)	b. Burns (Thermal)	c. Amputation	d. Decompression Sickness	e. Asphyxiation (Suffocation)	f. Fractures	g. Dislocation	h. Abrasions	i. Concussion	j. Sprain/Strain	k. Cuts/Lacerations	l. Contusion	m. Puncture Wound	n. Hernia, Rupture	o. Frostbite	p. Heat Stroke	q. Heat Exhaustion	r. Noise Injury/Illness												

SECTION B - PERSONNEL INFORMATION (Continued)

31. Person's action(s) at time of accident (Check one and explain in Block 32.)

a. Soldiering	j. Test/Study/Experiments	s. Fabricating	aa. Hobbies
b. Combat Soldiering	k. Educational	t. Handling Material/Passengers	bb. Passenger
c. Physical Training	l. Information and Arts	u. Janitorial/ Housekeeping/ Grounds Keeping	cc. Human movement
d. Weapons Firing	m. Food and Drug Inspection	v. Food/Drink Preparations	dd. Horseplay
e. Engineering or Construction	n. Laundry/Dry Cleaning Services	w. Supervisory	ee. Bystanding/spectating
f. Communications	o. Pest/Plant Control	x. Office	ff. Personal Hygiene/Food/Drink Consumption/Sleeping
g. Security/Law Enforcement	p. Operating Vehicle or Vessel	y. Counseling/Advisory	gg. Parachuting (See Instruction
h. Fire Fighting	q. Handling Animal	z. Sports	
i. Patient Care (People/Animals)	r. Maintenance/Repair/Serviceing		

32. SPECIFIC DESCRIPTION OF ACTIVITY/TASK

33. ON FIELD EXERCISE (Check one) <input type="checkbox"/> a. Yes (If YES, specify name of exercise.) <input type="checkbox"/> b. No	34. ACTIVITY PART OF TACTICAL TRAINING? (Check one) <input type="checkbox"/> a. Yes <input type="checkbox"/> b. No	35. Type of training facility being used (Check one)		
		a. Garrison	d. NTC	g. Std. range facility/live fire
		b. Local training area	e. JRTC	h. Other (Specify)
		c. Major training area	f. CMTC	

36. Type of training participating in at the time of accident (Check/specify)				37. Last time individual received training prior to accident on activity specified in block 31? (Check one)			
a. School (Specify)				a. 0 - 3 months		e. 1 - 2 years	
b. UNIT →	(1) Platoon	(2) Crew	(3) Individual	b. 3 - 6 months		f. More than 2 years	
c. On-the-job training				c. 6 - 9 months		g. Never	
d. Other (Specify)				d. 9 - 12 months		h. Not applicable	

38. Required protective equipment					39. INDIVIDUAL LICENSED TO OPERATE VEHICLE/EQUIPMENT? (Check one)					
CHECK APPROPRIATE BLOCK(S)	AVAILABLE?		USED?		N/A	<input type="checkbox"/> a. Yes <input type="checkbox"/> b. No <input type="checkbox"/> c. N/A				
	YES	NO	YES	NO		40. DID ALCOHOL CAUSE/CONTRIBUTE TO THIS ACCIDENT? (Check one) <input type="checkbox"/> a. Yes <input type="checkbox"/> b. No <input type="checkbox"/> c. Unknown				
a. Seat belt						41. If drugs caused/contributed to this accident, check appropriate block.			42. Were vision enhancement devices being used? (Check appropriate block.)	
b. Helmet						a. Prescription	a. Yes (Specify type/model in c and d.)			
c. Goggles/glasses						b. Illegal	b. No			
d. Gloves						c. Over-the-counter	c. TYPE		d. MODEL	
e. Ear plugs						d. None				
f. Other (Specify)										

43. Standard/Reference covering activity/task				44. WAS ACTIVITY/TASK PERFORMED IAW STANDARD/REFERENCE? (Check one)			
a. Soldier's Manual (Task No.)				<input type="checkbox"/> a. Yes <input type="checkbox"/> b. No (If NO, complete blocks 46-47.)			
b. CTT (Task No.)				45. DID INDIVIDUAL MAKE A MISTAKE? (Check one)			
c. AR/TM/FM (Specify)				<input type="checkbox"/> a. Yes (If YES, complete blocks 46-47.) <input type="checkbox"/> b. No			
d. SOP				e. None (Go to block 45.)			

46. What was the mistake? How was the activity/task performed incorrectly? (Explain below.)

47. Why was mistake made/activity performed incorrectly? (Check the most important reason and specify in Block 63.)

a. Inadequate school training (content/amount)	f. In a hurry	k. Inadequate services
b. Inadequate unit training (content/amount)	g. Poor/bad attitude	l. Improper equipment design
c. Inadequate on-the-job training (content/amount)	h. Lack of rest/sleep	m. Inadequate written procedures (AR, TM, SOP)
d. Fear/excitement	i. Effects of alcohol/drugs	n. Improper supervision
e. Overconfident in own/others abilities	j. Inadequate facilities	o. Other (Specify in narrative)

SECTION B - PERSONNEL INFORMATION (Continued)

48. Time licensed on this vehicle (Check one)		49. Total AMV driving mileage (Check one)		50. Total time in unit (Check one)	
a. Less than one year		a. Less than 1,000 miles		a. Less than 6 months	
b. One to two years		b. 1,000 - 5,000 miles		b. 6 months - 1 year	
c. Over two years		c. 5,000 - 10,000 miles		c. Over one year	
d. Unlicensed		d. Over 10,000 miles			

51. WHICH ITEM FROM SECTION C APPLIES TO THE INDIVIDUAL NAMED IN BLOCK 12? (This is needed in order to relate the person in block 12 to the equipment/vehicle below.)

Item A Item B Item C Other (Specify)

SECTION C - PROPERTY/MATERIAL INVOLVED (Whether Damaged or Not)

	ITEM A	ITEM B	ITEM C
52. Type of item			
53. Model number			
54. Ownership (DOD, DA, POV, Unit Person)			
55. Dollar cost of damage.			
56. Rollover protection system installed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
57. Was this item being towed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
58. If towed, enter letter for item doing towing.			
59. Types of collision codes (Pick up to three from list below and enter in blocks.) (In sequence)			

Types of Collisions

- | | |
|--|---|
| 1- Going forward and collided with moving vehicle | 7- Ran off the road |
| 2- Going forward and collided with parked vehicle | 8- Jackknifed |
| 3- Collision while backing | 9- Going forward and rear-ended moving vehicle |
| 4- Collision with pedestrian | 10- Going forward and rear-ended parked vehicle |
| 5- Collision with object (other than vehicle/pedestrian) | 11- Collision while turning |
| 6- Overturned | 12- Other (Specify) |

60. Component/Part that Failed/Malfunctioned (Complete this section if a materiel failure/malfunction caused/contributed to the accident.)

	ITEM A	ITEM B	ITEM C
a. National Stock Number			
b. Part Number			
c. Describe Part			
d. Manufacturer's Identification Code			
e. EIR/QDR Number			
61. How/Why Part Malfunctioned (Select code from "How" list below and enter in first block; select code from "Why" list and enter in second block.)	HOW	WHY	HOW

How Part Failed/Malfunctioned Codes

- | | |
|-------------------------------|------------------------------|
| 1- Overheated/burned/melted | 9- Twisted/torqued |
| 2- Froze (temperature) | 10- Compressed/hit/punctured |
| 3- Obstructed/pinched/clogged | 11- Bent/warped |
| 4- Vibrated | 12- Sheared/cut |
| 5- Rubbed/worn/frayed | 13- Decayed/decomposed |
| 6- Corroded/rusted/pitted | 14- Electric current action |
| 7- Overpressured/burst | 15- Unknown/Other |
| 8- Pulled/stretched | Blank- Not Reported |

Why Part Failed/Malfunctioned Codes

- 1- Improper equipment design
- 2- Inadequate maintenance
- 3- Inadequate manufacture of equipment
- 4- Inadequate written procedures (AR, TM, SOP)
- 5- Improper supervision
- 6- Unknown
- 7- Other (Specify in narrative)

SECTION D - ENVIRONMENTAL CONDITIONS INVOLVED

62. Environmental conditions. *(Check environmental conditions present and indicate if condition caused/contributed to the accident.)*

PRESENT	CAUSED/ CONTRIBUTED	CONDITION	PRESENT	CAUSED/ CONTRIBUTED	CONDITION
		a. Clear/dry; visibility unlimited			k. Wind gust/turbulence
		b. Bright, glare			l. Vibrate, shimmy, sway, shake
		c. Dark, dim			m. Radiation, laser, sunlight
		d. Fog, condensation, frost			n. Holes, rocky rough, rutted, uneven
		e. Mist, rain, sleet, hail			o. Inclined/steep
		f. Snow, ice			p. Slippery <i>(not due to precipitation)</i>
		g. Dust, fumes, gasses, smoke, vapors			q. Air pressure <i>(bends, decompression, altitude, hypoxia)</i>
		h. Noise, bang, static			r. Lightning, static electricity, ground
		i. Temperature/humidity <i>(cold, heat)</i>			s. OTHER <i>(Specify)</i>
		j. Storm, hurricane, tornado			

SECTION E - ACCIDENT DESCRIPTION/NARRATIVE *(From blocks 10, 47)*

63. GIVE THE SEQUENCE OF EVENTS THAT AMPLIFY/EXPLAIN WHAT HAPPENED, LEADING UP TO AND INCLUDING THE ACCIDENT. *(Explain why accident happened.)*

64a. PRINTED/TYPED NAME OF PERSON COMPLETING THIS REPORT	64b. RANK	64c. TITLE
64d. SIGNATURE	64e. DATE OF SIGNATURE <i>(YY/MM/DD)</i>	64f. TELEPHONE NO.

SECTION F - CORRECTIVE ACTION AND COMMAND REVIEW

65. DESCRIBE THE ACTIONS TAKEN, PLANNED, OR RECOMMENDED TO ELIMINATE THE CAUSE(S) OF THIS ACCIDENT *(from unit level up to HQDA).*

66a. PRINTED/TYPED NAME OF COMMANDER		66b. RANK	
66c. SIGNATURE		66d. DATE OF SIGNATURE <i>(YY/MM/DD)</i>	66e. TELEPHONE NO.
a. TYPED NAME	b. SIGNATURE	c. TITLE	d. RANK/DATE
67.			
68.			
69.			

SECTION G - SAFETY OFFICE USE ONLY

70. LOCAL REPORT NO.		71. MACOM	
72. Accident type <i>(Check choice)</i>			
a. Army Motor Vehicle	h. Other Army Vehicle	o. Personal Injury - Other	
b. Army Combat Vehicle	i. Fire	p. Property Damage - Other	
c. Army Operated Vehicle	j. Chemical Agent	q. POV - On Official Business	
d. POV - Not on Official Business	k. Explosive	r. Space	
e. Marine Diving	l. Missile	s. Commercial Carrier/Transportation	
f. Marine Underway	m. Radiation		
g. Marine Not Underway	n. Nuclear		

73. NAME OF SAFETY POINT OF CONTACT <i>(POC)</i>	74. PHONE NO. OF SAFETY OFFICE POC <i>(AUTOVON, Commercial, Etc.)</i>	75. DATE REPORT COMPLETED BY SAFETY OFFICE <i>(YY/MM/DD)</i>
--	--	--

SECTION H - SPECIAL INTEREST AND/OR SUPPLEMENTAL INFORMATION

76.	
77.	
78.	
79.	

U.S. ARMY ACCIDENT REPORT Instructions

General. The unit having the accident must investigate it and complete this report. Complete the shaded portions *only* for: Military off-duty, non-fatal accidents; and military on-duty accidents resulting in less than 20 lost workdays. Accidents involving 20 or more lost workdays and/or total property damage of \$2,000 or more will require completion of the entire report. Type or legibly print the report. Items may be continued on a blank sheet of paper and attached to the report. Items listed below are keyed to the block numbers of DA Form 285, May 91. Items not listed here are self explanatory. Specific questions concerning this form should be referred to the local safety

SECTION A - Accident Information

Note: This section should be completed for the initial report and for any changes to a previously submitted report.

1. Check "INITIAL" if this is the first report on the accident. Check "CHANGE" if this report is a change to a previously submitted report of the accident.
2. Enter the 6-digit Unit Identification Code (UIC) for the unit responsible for the accident
3. Provide military unit information for the unit listed in Block 2.
 - a. Full military address (e.g., C Troop, 1/17 Cavalry, Ft. Bragg, NC 12345-6789).
 - b. Provide the unit branch (e.g., Armor, Infantry, Transportation).
4. Enter the year, month, and day of the accident (e.g., 90 11 07 {7 November 1990}).
5. Enter the military time the accident occurred (e.g., 0815, 2300).
7. Check either item a or b, depending on the location of the accident.
8. If item a is checked, state name of post or installation (e.g., Ft. Bragg, NC; Federal Center,
9. Check item a if accident occurred in a theater of hostile fire or enemy action, but not as a result of such fire/action. This includes direct preparation for combat, actual combat, or redeployment from a combat theater.
10. Check "Yes" if explosives (C-4, TNT), ammunition, or pyrotechnics were involved and explain in Block 63 its involvement and specify the National Stock Number (NSN).
11. Give enough detail to find the exact location of the accident (e.g., building number, street or highway name, state and/or country). Also state the type of location (e.g., road intersection, tank trail, family housing, firing range).

SECTION B - Personnel Information

Note: Complete this section for each individual involved and/or injured in the accident. "Involved" means any person who was injured, or who took actions, or made decisions which caused or contributed to the accident. If more than one person was involved, enter information on one person on the initial form and complete only Sections A and B on additional forms for others.

16. Enter individual's rank/grade (e.g., E5/SGT, O3/CPT, GS-11, WG-8). Complete for all Government personnel.
17. Enter individual's full MOS/Job Series (e.g., 54E20, 11B40, GS-301).
18. Provide individual's full *Military* address for all Government personnel. If this address is not the same as that in Block 3a, provide the unit UIC.
21. State how many continuous hours without sleep this individual was on-duty prior to the accident.

22. Indicate how many hours of continuous sleep this individual had in the past 24 hours.

23. State the estimated number of days this individual will be away from work (*totally unable to perform any work, bed rest/on quarters*). Does not include days hospitalized.

24. State the estimated (*or actual*) number of days this individual is hospitalized (*inpatient/admitted*) receiving treatment. Days hospitalized for "observation only" are not reported.

25. State the estimated number of days this individual will not be able to perform his or her regular duties (*light duty, profile*).

26. Check appropriate block. If more than one applies, check the most severe.

28. For this individual's "most severe injury", check the appropriate block(s) (*no more than 3*) that indicate the cause of the injury.

29. Number the body part(s) most seriously injured (*no more than 3*) in their order of priority (*the most serious first*). Be as specific as possible.

30. For each body part numbered in block 29, place a corresponding number to indicate the type of injury received (*select only the most serious*).

31. Check the appropriate block that best describes the individual's action at the time of the accident. If Block 31gg is checked, complete Blocks 76 and 77 of Section H, as indicated by

32. Provide a short but detailed explanation of the item checked in Block 31.

Note: For this report, the following definitions apply:

Tactical Training - Training in a field environment that uses or develops combat or combat support

Field Exercise and Tactical Training - This begins when the individual reports to his or her primary duty location for movement to the field site and ends when he or she arrives back at the primary duty location from the field.

33. Check "Yes" if activity listed in Block 31 was part of a field exercise. State name of exercise if it has a name (e.g., *Team Spirit, Reforger*).

42. If vision enhancement device(s) were used, specify type and model numbers, and whether they caused the accident (e.g., *Night Vision Goggle, AN-PV55A*).

43. Provide standard or reference (*Soldier's Manual, AR, TM, etc.*), if it exists, that covers performance of the activity identified in Block 31.

46. Provide a simple explanation of the mistake(s) or how the activity or task was performed incorrectly (e.g., *SGT Smith improperly backed his M915 truck without a ground guide*).

47. In your opinion, why was the mistake made or the activity performed incorrectly? Check the

51. Check the block corresponding to the piece of equipment associated with the person in Block 12 (e.g., *SGT Adams was driving the "at-fault" HMMWV; his name will be in Block 12, and his vehicle will be Item a in Section C below*).

SECTION C - Property/Material Involved

Complete Blocks 52-59 on each piece of property or item of equipment involved in the accident (*whether damaged or not*). Include Army and non-Army, as well as equipment whose use or misuse contributed to the accident. Include up to 3 items of equipment on the initial form. Use additional blank sheets of paper for other equipment if necessary, continuing letter

52. Type of equipment (e.g., *sedan, truck, generator*).

53. Full military equipment model number or civilian make (e.g., *M109A2, M60A2, Ford*

55. Estimated cost of damage (*ECOD*) or actual cost of damage (*ACOD*) for each piece property, which includes costs of parts and labor.

57. Indicate if this specific item was being towed *at the time of the accident*.

58. If Block 57 is "yes", indicate which item was doing the towing.

60. Complete for each component or part whose failure or malfunction contributed to the accident.

61. Indicate how and why each component part failed or malfunctioned by selecting from the lists provided and entering the appropriate number in the blocks provided.

SECTION D - Environmental Conditions Involved

62. Check the environmental conditions present at the time of the accident (*no more than 3*) by checking appropriate blocks, whether contributory to the accident or not. Also check whether they caused or contributed to the accident.

SECTION E - Accident Description/Narrative

63. Fully describe the sequence of events that lead up to and caused the accident. Explain how and why the accident occurred. Also include information required from Blocks 10 and 47.

SECTION F - Corrective Action and Command Review

Note: The level of command review (*Company Battalion, Division, etc.*) is determined by either the major Army command (*MACOM*) or installation policy.

65. Fully describe all actions taken, planned, or recommended to eliminate the cause(s) of the accident. Actions should be identified appropriate at unit level, and all the way up to HQDA level.

SECTION G - SAFETY OFFICE USE ONLY

71. MACOM responsible for this accident (*FORSCOM, TRADOC, etc.*).

SECTION H - Special Interest/Supplemental Information

This section is for use by the U.S. Army Safety Center, MACOMs, or interested safety offices to obtain additional "Special Interest/Supplemental Information" on this accident as needed (e.g., *N tank fires, tactical parachute accidents, etc.* Blocks 76 and 77 have been designated for collection of supplemental information on parachuting accidents.

Blocks 76 and 77. If Block 31gg was checked, provide the following supplemental information for each individual:

- a. Name of jumper;
- b. Jumper height;
- c. Jumper weight;
- d. Type of jump (*static line, non-tactical static line, mass technical; freefall, non-tactical freefall, tactical*);
- e. Type of parachute and model;
- f. Jumper's equipment (*list*);
- g. Weight of equipment;
- h. Wind direction and speed at
 - (1) Jump height,
 - (2) Drop zone;
- i. Jump altitude;
- j. Jumper's position in stick and door exited;
- k. Time pre-jump conducted;
- l. Date of last jump and type of jump;
- m. Number of previous jumps;
- n. Date graduated from basic airborne training (*year and month*);
- o. Type of aircraft;
- p. Accident cause(s): Improper exit, static line injury, broken static line, parachute malfunction, entanglement, lost or stolen air, oscillation, unstable position, dragged on DZ, tree landing drop zone hazard (*specify*), or other.

Appendix L

U.S. ARMY ABBREVIATED GROUND ACCIDENT REPORT (AGAR)

For use of this form, see AR 385-40 and DA Pamphlet 385-40; the proponent agency is OCSA

REQUIREMENT CONTROL SYMBOL
CSOCS-308

1. TIME & DATE OF ACCIDENT										a. Yr		b. Mth		c. Day		d. Time		2. PERIOD OF DAY		Day	Night	3. ACDT CLASS		4. ACDT OCCURRED DURING:			Combat	Non-Combat	
5. UNIT IDENTIFICATION					a. UIC (6-digit Code)					b. Name of Unit					c. Unit's Branch					d. MACOM									
6. LOCATION OF ACCIDENT															a. Exact Location (Detailed enough to locate site)										b. Type Location				
c. State/County					d.	Off Post		On Post Name:					7. EXPLOSIVES/AMMO		a. Present	Yes	No	b. Involved		Yes	No								
8. MISSION	a. Briefly describe the mission															b. METL Task?		Yes	No										
9. VEHICLE/EQUIPMENT/MATERIEL INVOLVED										Material Failure/Malfunction Information																			
a. Type of Item (Nomenclature)		b. Model #		c. Ownership		d. Estimated Cost of Damage		e. Vehicle Collision		f. Failure Mode		g. Part Nomenclature		h. Part #		i. Part NSN		j. Part Manufacturer Code		k. EIR/QDR Submitted									
#1																				Yes	No								
#2																				Yes	No								
10. WHY DID THE MATERIEL FAIL/MALFUNCTION? (Check the root cause(s) in Block a. In Block b, explain how the root cause(s) led to the materiel failure/malfunction.)															b. Describe how the materiel failed/malfunctioned and explain why (root cause)														
a. LEADER (Not ready, willing to enforce standards)					STDS/PROCEDURES (Not clear, Not practical)					SUPPORT (Shortcomings in type, capability, amount or condition of equip/supplies/services/facilities)																			
Direct Supervision					AR		SOP			Equip/Materiel improperly designed			Inadequate Manufacture																
Unit Command Supervision					TM		Other			Equip/Materiel not provided			Inadequate Maintenance																
Higher Command Supervision					FM		None exists			Inadequate Facilities/Services			Other																
11. NAME (Last, First, MI) (Include Address & UIC if different than Blks 5a & b.)										12. SOCIAL SECURITY #		13. PERSONNEL CLASSIFICATION			14. MOS		15. DUTY STATUS		On-duty	Off-duty									
												16. AGE	17. SEX	18. PAY GRADE		19. FLIGHT STATUS		Yes	No										
20. MOST SEVERE INJURY (See instructions)										a. Degree		b. Type		c. Body Part		d. Cause													
21. DAYS HOSPITALIZED	ACTIVITY OF INDIVIDUAL Provide code (from list in instructions) and describe in space below.																												
	23. CODE		24. SPECIFIC DESCRIPTION OF ACTIVITY/TASK																										
22. WORKDAYS																													
a. Lost																													
b. Restricted																													
25. PERSONAL PROTECTIVE EQUIP					26. ALCOHOL/DRUGS CAUSE/CONT			Yes	No	Unk	27. EQUIP THIS PERSON WAS ASSOCIATED WITH? (Enter item No. from Blk 9a)																		
a. Required	b. Type of equip	c. Available	d. Used	28. LICENSED TO OPERATE EQUIP		29. HRS ON DUTY	30. HRS SLEEP	31. TACTICAL TRAINING		32. TYPE TRAINING FACILITY		33. LAST TRAINING	34. FIELD TRAINING EXERCISE		35. NIGHT VISION SYSTEM USED														
<input type="checkbox"/> Yes <input type="checkbox"/> No	#1 _____ #2 _____	#1 <u>No</u> #2 <u>No</u>	#1 <u>N</u> #2 <u>N</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No					<input type="checkbox"/> Yes If Yes, provide name: <input type="checkbox"/> No		<input type="checkbox"/> Yes If Yes, provide name: <input type="checkbox"/> No														
36. DID INDIVIDUAL MAKE A MISTAKE THAT CAUSED/CONTRIBUTED TO ACCIDENT? In Blk a., indicate if individual made a mistake. If yes provide the code (from instructions) in Blk b. and describe in Blk c.																													
a. Mistake	<input type="checkbox"/> Yes <input type="checkbox"/> No	c. Tell what the mistake was and how it caused/contributed to the accident																											
b. Code																													

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WSMRR 385-18

37. WHY WAS THE MISTAKE MADE (ROOT CAUSE)(Check the root cause(s) in Blk a. In Blk b. tell how the root cause(s) led to the mistake.)							
a.	LEADER <i>(Not ready, willing to enforce standards)</i>	TRAINING <i>(Insufficient in Content/Amount)</i>	STDS/PROCEDURES <i>(Not clear/Not practical)</i>		SUPPORT <i>(Shortcomings in type, capability, amount or condition of equip/supplies/services/facilities)</i>		INDIVIDUAL <i>(Mistake due to own personal factors)</i>
	Direct Supervision	School	AR	SOP	Equip/Materiel improperly designed	Inadequate Manufacture	Poor/Bad attitude Fatigue
Unit Command Supervision	Unit	TM	Other	Equip/Materiel not provided	Inadequate Maintenance	Overconfident Alcohol, Drugs	
Higher Command Supervision	Experience, OJT	FM	None exists	Inadequate Facilities/Services	Other	In a hurry Fear/Excitement	
b. Describe root cause(s) <i>(reason)</i> and tell how it/they caused the mistake						38. ENVIRONMENTAL CONDITIONS a. Present: #1 _____ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk #2 _____ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk #3 _____ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	
39. PROVIDE BRIEF SYNOPSIS OF ACDT <i>(Use additional sheets if required)(Explain sequence of events, tell how acdt happened.)</i>							
40. CORRECTIVE ACTION(S) TAKEN OR PLANNED							
41. POINT OF CONTACT FOR INFORMATION ON THE ACCIDENT							
a. Name (Last, First, MI)					b. Telephone # DSN: _____ COM: _____		
42. COMMAND REVIEW a. Name			c. Rank		43. SAFETY OFFICE REVIEW		b. Date
b. Signature			d. Date		a. Name		

Appendix M

ABBREVIATED AVIATION ACCIDENT REPORT (AAAR) FOR ALL CLASS C, D, E, F, COMBAT A AND B, AND ALL AIRCRAFT GROUND For use of this form, see AR 285-40 and DA Pamphlet 385-40; the proponent agency is OCSA						REQUIREMENTS CONTROL SYMBOL CSOCS-309				
COMPLETE BLKS 1-18 FOR ALL ACDTs. NO FURTHER ENTRY IS REQUIRED FOR CLASS D, E, AND F ACDTs NOT INVOLVING HUMAN ERROR/INJURY.										
1. DATE/CASE NO. OF ACCIDENT		a. (YYMMDD)		b. Time (Lcl)		c. Acft Ser No.		2. a. Classification <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F		
								b. Category <input type="checkbox"/> Flight <input type="checkbox"/> Flight Related <input type="checkbox"/> Acft Ground		
3. TYPE OF ACFT (MTDS)		4. PERIOD OF DAY		5. NO. ACFT INVOLVED		6. NEAREST MIL INSTALLATION				
		<input type="checkbox"/> Dawn <input type="checkbox"/> Day <input type="checkbox"/> Dusk <input type="checkbox"/> Night								
7. ACCIDENT LOCATION		a. <input type="checkbox"/> On-Post <input type="checkbox"/> Off-Post		b. <input type="checkbox"/> On Airfield <input type="checkbox"/> Not on Airfield		c. City (Nearest to acdt site)		d. State		
								e. Country (If not USA)		
8. ORGANIZATION INVOLVED										
a. Name of Unit			b. UIC (6 Digit Unit Id Code)			c. Home Station		d. MACOM		
9. ORGANIZATION DEEMED ACCOUNTABLE (If same as block 8 leave blank)										
a. Name of Unit			b. UIC (6 Digit Unit Id Code)			c. Home Station		d. MACOM		
10. ESTIMATED ACCIDENT COST		a. Acft Total Loss		<input type="checkbox"/> Yes <input type="checkbox"/> No						
b. Acft Damage (Excl man hr) \$		c. No. Man Hrs		d. Man Hr \$		e. Other Damage Mil \$		f. Civilian Damage \$		
								g. Injury \$		
								h. Total (This acft) \$		
								i. Total (All acft) \$		
11. GEN. DATA	a. Msn	(1) Type (Tng, Svc, etc.)		(2)		b. Flight Plan		c. Flight Data Recorder Installed		
				<input type="checkbox"/> Single-ship <input type="checkbox"/> Multi-ship		<input type="checkbox"/> NA <input type="checkbox"/> VFR <input type="checkbox"/> IFR		<input type="checkbox"/> Yes <input type="checkbox"/> No		
								d. Night Vision Device/System In use		
								<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Specify type		
e. Fire		<input type="checkbox"/> None <input type="checkbox"/> Inflight <input type="checkbox"/> Postcrash <input type="checkbox"/> Other		f. Flammable Fluid Spillage (If "Yes" for Class A, B, and C acfts, attach DA Form 2397-6)		<input type="checkbox"/> Yes <input type="checkbox"/> No		g. Field Training Exercise (FTX)		
								<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Name of FTX		
12. FLIGHT DATA	Flight Duration	Phase of Operation (Enter max of 3 codes from fig 3-5 DA Pam 385-40 or specify phase (e.g., hover, NOE, etc.))		Altitude AGL	Airspeed KIAS	Aircraft Weight	Overgross for Conditions	13. TYPE EVENTS (Enter max 3 codes from fig 3-4 DA Pam 385-40 or specify type event which best describes the acdt/incdt, e.g., tree strike, generator failure, eng overspeed, hard landing fuel exhaustion, dropped cargo, oil cooler bearing failure, etc.)		
a. At Emergency	Hours Tenth						Yes No			
b. At Impact/Acft or Termination	Hours Tenth									
14. ACCIDENT CAUSE FACTORS (Enter D, S, or U to identify Definite, Suspected, or Undetermined causes)				a. Human Error (If D or S complete blks 21, 23, & 24)		b. Materiel Failure/Malfunction (Includes mfg/design induced failures)(If D or S complete blk 16)		c. Environmental (If D or S Complete blk 17)		
15. SUMMARY (Enter summary of acdt sequence from onset of emergency through termination of flight. For Class D, E, and F, include the type of materiel failure and/or environmental factors.)										
16. COMPONENT AND PART FAILURE/MALFUNCTION DATA (part that initiated failure/malfunction.)						17. ENVIRONMENTAL (Chk conditions at time of acdt.)				
Identification	Major Component		Part			a. General (1) <input type="checkbox"/> IMC (2) <input type="checkbox"/> VMC (3) <input type="checkbox"/> Unknown				
a. Nomenclature						b. Environmental Conditions				
						(1) Weather Conditions		(2) Other Conditions		
b. Type, Design, and series						(a) Hail		(a) Animals		
						(b) Sleet		(b) Fowl		
c. Part Number						(c) Fog		(c) Surface		
						(d) Drizzle		(d) Noise		
d. NSN						(e) Rain		(e) Chemicals		
						(f) Snow		(f) Radiation		
e. Manufacturer's Code						(g) Lightning		(g) Glare		
						(h) Thunderstorm		(h) FOD		
f. Part Serial No.						(i) Gusty Winds		(i) Temperature		
						(j) Freezing Rain		(j) Vibration		
g. Cause Failure/Malfunction	(1) <input type="checkbox"/> Materiel (2) <input type="checkbox"/> Maintenance (3) <input type="checkbox"/> Design (4) <input type="checkbox"/> Manufacture		FGCODE (USASC)	TYPEFL	CAUFL	(k) Other		(k) Dust		
						c. Acft Icing <input type="checkbox"/> No <input type="checkbox"/> Yes		d. Turbulence <input type="checkbox"/> No <input type="checkbox"/> Yes		
18. BOARD PRESIDENT/ASO/POC (Name, Signature, and Date)				SSN		Address and Tel No. (DSN and Com)				
				Grade		Branch				

COMPLETE BLKS 19 - 26 FOR ALL CLASS C, COMBAT CLASS A, B, ACFT GROUND CLASS A, B, C, AND ALL CLASS ACDTs INVOLVING HUMAN ERROR/INJURY.

19. MOON ILLUMINATION DATA (For night Class A, B, or C acdts. If blk a is "no", no other entry is required.)

a. Moon Above Horizon <input type="checkbox"/> Yes <input type="checkbox"/> No	b. Moon Visible <input type="checkbox"/> Yes <input type="checkbox"/> No	c. Moon (Degrees Above Horizon) _____	d. Percent of Moon Illumination _____ %	e. Moon (Clock Position from Flight Path/Nose of Acft) _____
---	---	---------------------------------------	---	--

20. WIRE STRIKE DATA (If "no" in blk a, no other entry is required)

a. Wire Strike <input type="checkbox"/> Yes <input type="checkbox"/> No	b. WSPS Installed <input type="checkbox"/> Yes <input type="checkbox"/> No	c. WSPS Engaged Wire <input type="checkbox"/> Yes <input type="checkbox"/> No	d. WSPS Cut Wire <input type="checkbox"/> Yes <input type="checkbox"/> No	e. WSPS Functioned as Designed <input type="checkbox"/> Yes <input type="checkbox"/> No	f. Wires Stuck No. _____ Dia (inches) _____
--	---	--	--	--	---

21. PERSONNEL DATA (Complete for each crewmember with access to fit controls or other personnel injured or having a contributing role in the accident; use additional forms as needed)

a. Name (last, first, MI)		(1) SSN	(2) Grade	(3) Sex	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role <input type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N
(8) On Fit Controls <input type="checkbox"/> Yes <input type="checkbox"/> No	(9) Lab Test (Blood/urine; for pos attach AFIP report) <input type="checkbox"/> Yes <input type="checkbox"/> No	(10) Activity (Last 24 Hrs)	(a) Hrs Slept	(c) Hrs Flown	(11) (a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	(12) Injury (If "yes" complete DA Form 2397-9-R) <input type="checkbox"/> Yes <input type="checkbox"/> No	(13) Tot Hrs (acdt MTDS)	
b. Name (last, first, MI)		(1) SSN	(2) Grade	(3) Sex	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role <input type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N
(8) On Fit Controls <input type="checkbox"/> Yes <input type="checkbox"/> No	(9) Lab Test (Blood/urine; for pos attach AFIP report) <input type="checkbox"/> Yes <input type="checkbox"/> No	(10) Activity (Last 24 Hrs)	(a) Hrs Slept	(c) Hrs Flown	(11) (a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	(12) Injury (If "yes" complete DA Form 2397-9-R) <input type="checkbox"/> Yes <input type="checkbox"/> No	(13) Tot Hrs (acdt MTDS)	
c. Name (last, first, MI)		(1) SSN	(2) Grade	(3) Sex	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role <input type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N
(8) On Fit Controls <input type="checkbox"/> Yes <input type="checkbox"/> No	(9) Lab Test (Blood/urine; for pos attach AFIP report) <input type="checkbox"/> Yes <input type="checkbox"/> No	(10) Activity (Last 24 Hrs)	(a) Hrs Slept	(c) Hrs Flown	(11) (a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	(12) Injury (If "yes" complete DA Form 2397-9-R) <input type="checkbox"/> Yes <input type="checkbox"/> No	(13) Tot Hrs (acdt MTDS)	

22. IMPACT/PROTECTIVE/ESCAPES/SURVIVAL/RESCUE DATA (For Class A, B, and C acdts)

a. Acft Occupiable Space Compromised (If "yes" DA Form 2397-6-R required) <input type="checkbox"/> Yes <input type="checkbox"/> No	b. Escape/Survival Difficulties (If "yes" DA Form 2397-10-R required for the individual) <input type="checkbox"/> Yes <input type="checkbox"/> No	c. Protective/Restraint Equip Functioned as designed (If "no" DA Form 2397-10-R required for the individual) <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---	---

23. ACFT CAUSE FACTORS (Blk 24 must support all cause factors checked; See DA Pam 385-40 for definition of cause factors)

a. <input type="checkbox"/> Training Failure (Stds exist but not)	b. <input type="checkbox"/> Standards Failure (Stds not)	c. <input type="checkbox"/> Leader Failure (Stds)	d. <input type="checkbox"/> Individual Failure	e. <input type="checkbox"/> Support Failure (Inadequate equip/)
---	--	---	--	---

24. FINDINGS AND RECOMMENDATIONS (See instructions in DA Pam 385-40 for writing findings and recommendations. Use additional sheet if required)

Blank area for findings and recommendations.

USASC use only	Duty	Role	Failure/error Code	SI 1	RM 1	RM 2	RM 3
	Phase of OP	Task/part no.		SI 2	RM 1	RM 2	RM 3

25. LIST OF ATTACHMENTS (CCAD, DA Forms 2397-4, 8, 9, etc.)

26. COMMAND REVIEW (Required for Class A and B combat and all Class C acdts. Use separate sheet for non-concurrence, additional findings, and recommendations.)

REVIEWER	Organization	Name (Typed/Printed)	Rank	Signature	Comments
a. Unit Commander					<input type="checkbox"/> Concur <input type="checkbox"/> Non-concur
b. Reviewing Official					<input type="checkbox"/> Concur <input type="checkbox"/> Non-concur
c. Approving Authority					<input type="checkbox"/> Approved <input type="checkbox"/> Disapprove
d. DA Review	US Army Safety Center				Approved for entry into ASMIS (YYMMDD)

Appendix N

Appendix N**Format for Commander's Critical Information Report (CCIR)**

1. Type of Incident: **(i.e., accident, personal injury, etc.)**
2. Date and Time: **(i.e., 2/27/08, 1600 hours)**
3. Location: **(as specific as possible)**
4. Personnel Involved: **(i.e., civ, mil, and name)**
5. Incident Summary: **(clear and concise)**
6. Incident Remarks: **(if applicable)**
7. Incident Publicity: **(if applicable, otherwise, None)**
8. Point of Contact: **(name, title, ofc, phone)**
9. Submitter: **(name, title, ofc, phone)**
10. Commander Reporting: **(name, title, ofc, phone)**

Appendix O

Appendix O

Fatality Review Board (FRB)

O-1. Preparing FRB slides.

When preparing FRB slides include all of the following information. See table C-1 for format.

Table O-1
Preparing FRB Slides

Slide Title	Example of information contained on each slide:
FRB Title	Unit Name Names (s) Date of FRB
FRB Agenda	Participants Introductions to the CG/GC – <u>All</u> Biography and personal data - <u>Unit/Organization</u> 48-hour sequence of events – <u>Unit/Organization</u> Incident synopsis – <u>Security or CID</u> Causative/contributing factors - <u>Security or CID</u> Medical – <u>McAfee Army Health Clinic</u> Casualty Assistance – <u>CAO</u> Memorial Funeral Service Details - <u>Unit/Organization</u> Publicity - <u>PAO</u> Assessment of organizations safety program – <u>Unit/Organization and Installation Safety Office</u> After Incident Initiatives - <u>Unit/Organization</u> Closing Questions and Comments – <u>All</u>
Biography/Personal Data Name(s)	Sex, age, grade, military occupational specialty, and length of time in unit Special training assignments Experience/training in activity performed at time of accident (for example, driver training, motorcycle training, parachute jump, etc.) Performance indicators (counseling statements, bad checks, Common Task Testing scores, Army Substance Abuse Program files, health risk assessment, etc.) Most recent/next scheduled permanent change of station, training event, deployment Recent medical or mental health issues impacting Soldier Changes of command in unit Activated reserve component personnel and date activated
48-Hour Sequence of Events	48-hour sequence of events From 48-hours prior to time of accident (N) N-48 hours: N-XX hours: N-XX hours: N-XX hours: N-XX hours: N-hour: Identify any training event being conducted at the time of the accident List significant occurrences in life of the deceased individual in last 48 hours leading up to minutes/seconds before accident

Table O-1
Preparing FRB Slides, continued

Incident Synopsis	<p>Date: yy/mm/dd Time: 0000 hours Location (show map/sketch of accident location) Environmental conditions (day/night, etc.) Other official civilian agency accident reports, if available (contact Law Enforcement Command or the staff judge advocate for assistance in obtaining reports) Witness statements Extent/type of injuries sustained Photos of accident scene, if possible, and photos of vehicle(s)/equipment involved in accident Action of victim/others and sequence of events of accident Emergency response (time to respond, who responded, where victim was taken, time/place of death, etc.) Time and sequence of organization/unit commander/SDO/Safety Office notification</p>
Causative/Contributing Factors	<p>Physical description of equipment/vehicle (include inspection documentation, vehicle/equipment service records, etc., if available (DA Form 285, block 52) Use and type of safety equipment (seatbelt, antilock brakes, helmet, gloves, goggles, etc.). (DA Form 285, block 38) Vehicle/equipment failures/malfunctions (provide photos, documentation of failed/malfunctioned parts, etc. (DA Form 285, Block 60.) Condition of Military Service Member (blood alcohol content, fatigue, etc.) (DA Form 285, block 41.) Explain who performed incorrectly and how (DA Form 285, block 47; DA Form 285-AB-R, blocks 36b and 36c) Reasons activity was performed incorrectly (DA Form 285, block 46; DA Form 285-AB-R, block 37) Identify/describe any leadership failure</p>
Medical	<p>Cause of Death - Blunt Force Trauma Preliminary autopsy report not available – The Medical Examiner anticipates 4 more weeks for report No Mental Health records Toxicology reports pending</p>
Casualty Assistance	<p>Notification was made to the Military Service Members parents, Mr. and Mrs. Jones on 14 Apr 08 at 1835, by SFC Smith from Ft Huachuca, AZ. Death Gratuity in the amount of \$50,000.00 each was EFT'd to Mr. and Mrs. Jones on 15 Apr 08. SGLI in the amount of \$400,000 will be split between PVT Jones's parents.</p>
Memorial/Funeral Service Details	<p>CAO info: SFC Sherry Brown, Ft Huachuca, AZ Family gave disposition authority to the Army and chose a metal casket. SSG Lewis will be the military escort accompanying the remains.</p>

	<p>The remains and escort will depart El Paso at 0840 on 27 April 2008.</p> <p>The visitation will be on Monday the 28th of March 2008 from 0900-1100 at the Holy Cross Church in Phoenix, with the funeral service at 1100. Burial will be immediately following at King of Heaven Cemetery in Home Town, AZ.</p>
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Table O-1
Preparing FRB Slides, continued

Publicity	None to Date
Organizations Safety Program Assessment	<p>Official/training holiday safety briefs and other unit safety briefings</p> <p>Vehicle or equipment inspections</p> <p>Leave policy</p> <p>Awards program</p> <p>Unit safety awareness profile (trained safety officer/NCO, posters, NCO wallet cards, safety days, risk management training/implementation, etc.)</p>
Installation Safety Office	<p>Classification - Class "A" Off Duty Accident</p> <p>Type Report – Army Abbreviated Ground Accident Report (AGAR – DA Form 285-AB-R), Due ISO 21 days, CRC 30 days.</p> <p>Investigation – One person board – timely conducted but should be rushed. CID/Security Directorate has lead in ground fatal accident.</p> <p>Accountability – Unit/Organization of assignment (Unit Name)</p> <p>One accident – one report including the injured Soldier.</p> <p>Local Hazard Safety Briefing – PVT Jones attended the safety briefing during in processing week of 7 Apr thru 11 Apr 08.</p> <p>CRC PLR – PLR published on fatal accidents in approx 48 hours <www.crc.army.mil></p>
After Incident Initiatives	<p>Explain how the organization used lessons learned from this incident to brief organization members</p> <p>New safety programs or countermeasure initiated since incident</p> <p>Medical interventions (critical incident stress debriefings, Individual counseling, OPDs/NCODPs by medical personnel, etc.)</p> <p>Describe actions taken, planned, or recommended to eliminate the cause(s) of this accident (from unit level to HQDA)</p>
Closing Questions and Comments	

Appendix P

Date: _____ Organization _____ Tel # _____

Section I. BACKGROUND

WHO was involved or injured?

Employee Name: _____

Home Address: _____

Job Title: _____ Office Symbol: _____

Phone: Home: _____ Work: _____

Date of birth: _____ Age: _____ Date hired: _____

Gender: Male / Female

Was employee treated at McAfee Health Center: Yes / No

WHEN did accident/incident occur?

Date of Injury or Illness: _____

Time of Accident: _____ AM / PM

Day of Week: Sun Mon Tue Wed Thur Fri Sat

Temperature: (Degrees F) _____

Wind Speed (mph) _____ call (678-2488/2462) Root Cause? Yes / No

Weather Conditions: Raining / Wet / Icy Root Cause?: Yes / No

AMV (Army Motor Vehicle) Accident? Yes / No Damage: Less than \$2000? / More than \$2000?

Date Accident Reported: _____

WHERE did the accident/incident occur?

Location: _____ Equipment Involved: _____

WHAT happened?

What was the employee doing just before accident occurred? _____

What was the injury or illness (description): _____

What object or substance directly harmed the employee: _____

Witnesses: Attach witness information and statements.

Section II. DESCRIPTION OF ACCIDENT (Describe sequence of events prior to, during, and immediately after the accident. Attach separate page if necessary)

Section III. FINDINGS AND JUSTIFICATIONS (Attach separate page if necessary)

- **Indirect Cause(s)** - Unsafe conditions and/or behaviors at any level of the organization;
- **& justification:** Describe evidence or proof that substantiates your findings.

- **Root Cause(s)** - Missing/inadequate programs, plans, policies, processes, procedures;
 - **& justification:** Describe evidence or proof that substantiates your findings.
-
-

Section IV. RECOMMENDATIONS (Attach separate page if necessary)

1. **Immediate Corrective Actions** (To eliminate or reduce the hazardous conditions/unsafe behaviors that directly caused the accident.)

Results (Describe the intended results and positive impact of the change.) _____

2. **Long Term Corrections** (policies, procedures, training, etc. to ensure unsafe conditions and/or practices do not recur)

Results (Describe the intended results and positive impact of the change.) _____

Section V. SUMMARY (Brief review of the causes of the accident and recommendations for corrective actions, including estimated costs of accident and costs and benefits of corrective action)

Section VI. REVIEW AND FOLLOW-UP ACTIONS: (Appropriate, timely, etc.)

Immediate Corrective Actions Taken: _____
Responsible Supervisor (Name): _____
Date Correction Due: _____
Date Closed: _____

Long Term (System Improvements) Made:
Responsible Supervisor (Name): _____
Date Correction Due: _____
Date Closed: _____

Prepared by _____ Title _____ Date ____--
 Reviewed by _____ Title _____ Date ____--

Section VII. ATTACHMENTS: (Photos, Sketches, Interview notes etc.)

ROOT CAUSE CATEGORIES

- Improper Work Technique
- Safety Rule Violation
- Improper PPE or PPE Not Used
- Fire or Explosion Hazard
- Inadequate Ventilation/Lighting
- Improper Material Storage
- By-Passed Safety Device/Guard
- Slippery Conditions
- Improper Lifting
- Horseplay/Unsafe Act of Other

Inadequate Fall Protection
Improper Loading/Placement
Poor Workstation/Process Design/Layout
Congested Work Area
Hazardous Substance
No PPE
Insufficient Worker Training
Improper Maintenance/Inspection
Improper/Inadequate Tools/Equipment
Inadequate Job Planning/Scheduling
Poor Housekeeping
Drug/Alcohol Use
Inadequate Guarding of Hazard
No Written Procedure/Policy
Safety Rule Not Enforced
Operating Without Authority
Failure to Warn/Secure
Operating at Improper Speeds
Insufficient Knowledge of Job
Inadequate Supervision
Excessive Noise
Servicing Machine in Motion
Unnecessary Haste

Other: _____

APPENDIX Q - CHAPTER 8
STANDING OPERATING PROCEDURES COVER PAGE
EXPLOSIVE HAZARDOUS OPERATIONS

DEPARTMENT OF THE ARMY
U.S. ARMY WHITE SANDS MISSILE RANGE
White Sands Missile Range, NM 88002

WSMR SOP NO: _____
USAADAC NO: _____
DATE: _____
REVISION: _____

STANDING OPERATING PROCEDURE (SOP)
FOR
(PLACE TITLE HERE)

OPERATION: _____
OPERATION NO. _____ AREA: _____ BUILDING: _____
EXPLOSIVE LIMITS: _____
HAZARD CLASSIFICATION: _____ PRESSURE LIMITS: _____
PERSONNEL LIMITS: _____ OPERATORS: _____ CASUALS: _____

PREPARED: _____
Name Date

REVIEWED BY: _____
Name Date

SUBMITTED BY: _____
Name Date

CONCURRENCES:

TC-OS Safety _____
Review Date

WS-TC-OS _____
QASAS William L. Watkins Date

WILLIAM L. WATKINS Date
Acting Chief, TC Safety
WS-TC-OS

CHARLES E. ROSE Date
Chief, Garrison Safety Office,
WSM-SO

GARY D. GIEBEL Date
Colonel, FA
Commanding, WSM-ZA

APPROVED:

BRUCE D. LEWIS Date
Colonel, Acquisition Corps
Commander, WSTC

APPENDIX R - CHAPTER 8
STANDING OPERATING PROCEDURES COVER PAGE
NON-EXPLOSIVE HAZARDOUS OPERATIONS

Appendix S

Hazard Analysis

Safety Operating Procedure

Date

Operation/ Equipment	Hazard Potential Energy	Cause Stimuli	Effect Mishap Results	RAC Sev X P	Countermeasures Hazard Controls	RAC Controlled/ Eliminated

Prepared by

Name

Signature

Date

Appendix T

WHITE SANDS MISSILE RANGE's CONFINED SPACE ENTRY PERMIT

SITE Location & Description: _____
 Purpose of Entry: _____
 Name of Supervisor(s): _____ Phone: _____
 Type of Crew: _____
 NAME of Required Safety Standby Person(s) _____
 Authorizing Entry Supervisor's Name: _____ Phone: _____

Permit valid for 8 hours only. All copies of permit will remain at job site until work completed.

COMPLETED REQUIREMENTS	DATE	TIME	COMPLETED REQUIREMENTS	DATE	TIME
Lock Out/De-energize			Full Body Harness w/O Ring		
Line(s) Broken/Capped			Emergency Escape/Retrieval		
Purge-Flush & Vent			Lifelines		
Ventilation			Fire Extinguishers		
Secure Area (Post & Flag)			Lighting (Explosive Proof)		
Breathing Apparatus			Protective Clothing		
Resuscitator-Inhalator			Respirators (Air Purifying)		
Standby Safety Personnel			Burning & Welding Permit		

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

	Permissible Entry Level								
% of Oxygen	19.5% - 23.5%								
Lower Flammable Limit	Under 10%								
Carbon Monoxide	35 ppm								

GAS TESTER'S NAME	TYPE & MODEL OF INSTRUMENT USED	SERIAL NUMBER	UNIT NUMBER

EMERGENCY PHONE NUMBERS
EMERGENCY OPERATIONS CENTER 911
 FIRE DEPARTMENT(ADMIN) 678-4193
 INDUSTRIAL HYGIENE 678-4025

AMBULANCE 911

SAFETY OFFICE 678-1211

Appendix U

CHAPTER 14 APPENDIX U CHEMICAL HYGIENE PLAN

1. GENERAL: The Chemical Hygiene Plan (CHP) establishes responsibilities, policies and procedures for handling hazardous chemicals in the laboratory. Exempted are military unique chemical surety or super-toxic material, toxins and radionuclides. Regulatory requirements for safe handling of these agents are referenced below.

- a. Chemical Surety Material (AR 385-61, DA Pam 40-8)
- b. Toxins (AR 385-69, DA Pam 385-69)
- c. Radionuclides (AR 11-9)

2. SCOPE: The CHP applies to all laboratories located on White Sands Missile Range.

3. DEFINITIONS:

a. Acutely toxic: A chemical falling within any of the following toxicity categories: (1) a median lethal dose (LD50) of 50 mg/kg of body weight or less when administered orally to rats, (2) an LD50 of 200 mg/kg of body weight or less when administered to the skin of rabbits, (3) a median lethal concentration (LD50) in air of 200 ppm or less of gas or vapor, or 2 mg/liter or less of mist, fume or dust when administered by inhalation to rats.

b. Action level: A concentration designated in Title 29, CFR Part 1910, for a regulated substance which initiates certain required activities such as exposure monitoring and medical surveillance. Also ½ of the permissible exposure limit (PEL) or threshold limit value (TLV) for a chemical, whichever is more stringent.

c. Carcinogen: A chemical or mixture which contains at least 0.1 percent of a chemical which meets one of the following criteria: (1) it is regulated by OSHA as a carcinogen, (2) it is a human carcinogen listed under the category "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP), (3) it is listed under Group I, "carcinogenic to humans," by the International Agency for Research on Cancer (IARC), (4) it is listed in either Group 2A or 2B by IARC or under the category "reasonably anticipated to be carcinogens" by NTP, (5) is a military unique compound classified as a carcinogen by the Center for Health Promotion and Preventive Medicine (CHPPM) or Office of the Surgeon General (OTSG), or (6) it causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria:

(1) After inhalation exposure of 6-7 hours per day, 5 days per week for a significant portion of a lifetime to doses less than 10 mg/cubic meter, or

(2) After repeated skin application of less than 300 mg/kg of body weight per week, or

(3) After oral doses of less than 50 mg/kg of body weight per day.

d. Chemical Hygiene Officer: As designated by the Commanding General, WS-SV-AT will supply the White Sands Missile Range Chemical Hygiene Officer and will ensure he is qualified by professional training and experience to provide technical guidance in the development and implementation of the Chemical Hygiene Plan.

- e. **Chemical Hygiene Plan:** A written program developed and implemented by the employer which sets forth policy and procedures capable of protecting employees from the health hazards associated with their workplace IAW 29 CFR 1910.1450(e)(3)
- f. **Combustible Liquid:** Any liquid having a flashpoint at or above 100 degrees Fahrenheit (F), but below 200 degrees F, except any mixture having components with flashpoints of 200 degrees F or higher, the total volume of which makes up 99 percent or more of the mixture.
- g. **Compressed Gas:** A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 degrees F, or a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 degrees F regardless of the pressure at 70 degrees F.
- h. **Designated Area:** An area, which may be used for work involving carcinogens, reproductive toxins or acutely toxic chemicals. A designated area may be the entire laboratory, a controlled area within the laboratory or engineering controls such as a chemical hood.
- i. **Emergency:** For the purposes of this plan, any occurrence such as, but not limited to, equipment failure, container rupture or loss of engineering control which results in the release of a hazardous chemical into the workplace.
- j. **Employee:** An individual employed in a laboratory that may be exposed to hazardous chemicals in the course of employment.
- k. **Explosive:** A chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature.
- l. **Flammable Aerosol:** An aerosol that, when tested by the method described in Title 16, CFR, part 1500.45, yields flame projection exceeding 18 inches at full valve opening, or a flash back at any degree of valve opening.
- m. **Flammable Gas:** A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less, or a gas that at ambient temperature and pressure forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit.
- n. **Flammable Liquid:** A liquid having a flashpoint below 100 degrees F, except any mixture having components with flashpoints of 100 degrees F or higher, the total of which make up 99 percent or more of the total volume of the mixture. It is also known as a Class I liquid. These are further divided into:
- (1) **Class 1A:** Which includes liquids having flashpoints below 73 degrees F and boiling points below 100 degrees F.
 - (2) **Class 1B:** Which includes liquids having flashpoints below 73 degrees F and boiling points at or above 100 degrees F.
 - (3) **Class 1C:** Which includes liquids having flashpoints at or above 73 degrees F but below 100 degrees F.
- o. **Flashpoint:** The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested using the Tagliabue Closed Tester, the Pensky-Martens Closed Tester or the Setaflash Closed Tester.

p. **Hazardous Chemical:** A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in an exposed employee. This includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic (blood-forming) systems, and agents which can damage the lungs, skin, eyes or mucous membranes.

q. **High Risk Operations:** Experimental procedures involving the manipulation, handling or reaction of hazardous chemicals where the potential for release of gas, vapor or aerosol contamination is high. This category includes but is not limited to:

- (1) Rapid exothermic reactions
- (2) Transfer of electrostatic powders
- (3) Heating, mixing or transfer of volatile chemicals
- (4) Pressurized operations where there is potential for uncontrolled release
- (5) Work involving aerosol generation

r. **Laboratory:** A facility or individual room where the “laboratory use” of hazardous chemicals occurs.

s. **Laboratory Hood:** A type of engineering control enclosed on five sides with a movable sash or fixed partial enclosure on the remaining side designed to draw air from the laboratory into the enclosure to prevent or minimize the escape of contaminants into the laboratory space.

t. **Laboratory Scale:** Work with substances in which the chemical quantities and equipment used for reactions, transfers, and other handling are designed to be easily and safely manipulated by one person.

u. **Laboratory Use:** The handling or use of chemicals in which:

- (1) Chemical manipulations are done on a “laboratory scale.”
- (2) Multiple procedures or chemicals are used.
- (3) Procedures are not part of a production process.
- (4) “Protective laboratory practices and equipment” are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

v. **Low Risk Operations:** Experimental procedures where the potential for release of gas, vapor or aerosol contamination is remote.

w. **Medical Consultation:** A consultation which takes place between an employee and a licensed physician for the purpose of determining what medical exams or procedures are appropriate in cases where a significant exposure to a hazardous chemical may have taken place.

x. **Oxidizer:** A chemical other than a blasting agent or explosive as defined in Title 29 CFR, part 1910.109 (a), that initiates or promotes combustion in other material, thereby causing fire either by itself or through the release of oxygen or other gases.

y. **Permissible Exposure Limit:** An occupational standard promulgated by OSHA as regulatory requirement. The PEL can be an 8-hour TWA, a ceiling value or a 15-minute STEL. A list of PEL's is found in Title 29 CFR, part 1910, subpart z.

z. **Protective Laboratory Practices and Equipment:** Those laboratory procedures, engineering/administrative controls, work practices and protective clothing and equipment used to minimize employee exposure to hazardous chemicals.

aa. **Reproductive Toxin:** A chemical which affects the reproductive system and may produce chromosomal damage (mutations) and adverse effects on the fetus (teratogenesis). For the purpose of this guidance any chemical with a mutagenic or teratogenic quotation in the Registry of Toxic Effects of Chemical Substances (RTECS) shall be considered a reproductive hazard.

bb. **Threshold Limit Value (TLV):** Airborne concentrations of a substance published by the ACGIH to which it is believed workers may be exposed day after day with no adverse effect. The TLV's are advisory in nature; however, DA policy uses the TLV as regulatory policy when it is more stringent than the PEL for a specific chemical. A list of TLV's is found in Title 29 CFR, part 1910, subpart z.

cc. **Toxic Chemical:** A chemical falling within any of the following toxicity categories: (1) an LD50 of more than 50 mg/kg but not more than 500 mg/kg of body weight when administered orally to rats, (2) an LD50 of more than 200 mg/kg but not more than 1000 mg/kg of body weight when administered to the skin of rabbits, (3) an LD50 in air of more than 200 ppm but not more than 2000 ppm of gas or vapor, or more than 2 mg/liter but not more than 20 mg/liter of mist, fume or dust when administered by inhalation to rats.

4. ACTIONS:

a. The White Sands Missile Range Chemical Hygiene Officer shall:

- (1) Develop and implement guidance for handling hazardous chemicals in the laboratory.
- (2) Review the CHP at least annually and revise the document to reflect current regulatory practice.
- (3) Review Standing Operating Procedures (SOP's) for all laboratory operations using hazardous chemicals.
- (4) Conduct the pre-operational surveys of all new laboratory operations using hazardous chemicals.
- (5) Coordinate with the Industrial Hygienist to obtain a copy of the Health Hazard Information Module (HHIM) database for all laboratories.
- (6) Review plans and specifications for all laboratory construction or renovation.

b. The Installation Safety Office shall:

- (1) Conduct periodic inspections of all laboratories using hazardous chemicals.
- (2) Ensure that all SOP's for laboratory operations using hazardous chemicals are prepared in accordance with chapter 8, Para b (2) and Para d (1) of this regulation.
- (3) Investigate all reported accidents, which result in exposure to hazardous chemicals.

(4) Review plans and specifications for all laboratory construction or renovation.

c. The McAfee U.S. Army Health Clinic Industrial Hygienist shall:

(1) Maintain the HHIM database for all White Sands Missile Range laboratories.

(2) Conduct air sampling of laboratory operations where there is a reasonable probability that employee exposure may exceed the action level for a chemical.

(3) Conduct replacement, pre-assignment and periodic job related medical surveillance for military and civilian employees potentially exposed to hazardous chemicals.

(4) Conduct laboratory surveys at least annually.

d. Supervisors shall:

(1) Ensure that an SOP is prepared for all laboratory operations, which use hazardous chemicals in accordance with chapter 8 of this regulation.

(2) Ensure that laboratory personnel receive job related medical surveillance from McAfee Clinic if required.

(3) Ensure that personnel working with hazardous chemicals are trained and “certified” to conduct operations.

(4) Ensure that personnel have received adequate training in the use and care of required and provided protective clothing and equipment.

(5) Perform inspections of laboratory operations, which use hazardous chemicals to ensure compliance with the SOP and the CHP.

e. Laboratory personnel shall:

(1) Plan and conduct laboratory operations using hazardous chemicals in accordance with approved procedures found in the SOP and the CHP. Laboratory hood ventilation checks using appropriate instrumentation shall be conducted prior to initiation of experiment procedures.

(2) Report hazardous conditions, exposures or abnormal circumstances associated with operation to their supervisor.

(3) Report for any job-related medical surveillance (physicals) required by McAfee Clinic.

(4) Manage laboratory waste in accordance with applicable environmental regulations and the White Sands Missile Range Environmental Hazardous Waste Management Plan (WSMRR 200-1).

5. POLICY:

a. The CHP establishes the minimum regulatory requirements for the safe use of hazardous chemicals in the laboratory. Chemical exposure shall be minimized through the use of engineering controls, work practices, and protective equipment and clothing.

b. Laboratory personnel shall not be exposed to airborne concentrations, which exceed the more stringent of either the PEL or TLV for a specific compound or mixture. A list of PEL's and TLV's is found in 29 CFR, part 1910, subpart z.

6. PROGRAM ADMINISTRATION:

a. SOPs shall be prepared for laboratory operations using hazardous chemicals. The SOP shall be prepared in accordance with chapter 8 of this regulation.

b. A pre-operational survey shall be conducted by the staff offices to identify health, safety, and environmental issues before any new operation may begin. The SOP shall not be approved until the pre-operational survey is completed.

c. Periodic safety inspections shall be conducted in each laboratory. Frequency shall be determined by the Installation Safety Office.

d. As a minimum, annual industrial hygiene surveys shall be conducted in each laboratory by the Industrial Hygienist.

7. PROCUREMENT:

a. Laboratory personnel shall order the smallest quantity of chemicals necessary to complete the work.

b. Laboratory personnel shall review health and safety data on chemicals before receipt to determine special requirements for handling, storage or disposal.

c. Material Safety Data Sheets (MSDSs) for chemicals used at White Sands Missile Range shall be provided to laboratories upon receipt of any new chemical. Laboratory supervisors shall ensure that an MSDS is obtained when picking up chemicals and made available to all employees. Supervisors shall ensure that employees are familiar with the MSDS's contents.

d. Laboratory personnel shall inspect containers upon receipt to ensure they are intact and not leaking. Damaged or unlabeled containers shall not be accepted.

8. CHEMICAL STORAGE:

a. General: Chemical storage inside the laboratory shall be limited to those chemicals necessary to complete mission requirements. Central storerooms shall be used when they are available. Chemicals shall not be stored on the bench.

(1) Chemicals shall be stored in accordance with the compatibility requirements. A separate cabinet shall be used for each group. Chemicals shall be stored in trays, desiccator or secondary containment large enough to contain the spill from the largest container.

(2) Chemical containers shall be inspected at least annually to determine their condition. Corroded or leaking containers shall be over packed and turned in along with outdated or excess chemicals.

(3) Cabinets shall be labeled with storage code and compatibility category.

b. Inventories:

(1) Inventories shall be available for each individual room where chemicals are stored or handled. The inventory shall be maintained by the room custodian and list the chemical name. Inventories shall be available to the Installation Safety Office during inspections.

(2) Room custodians shall update the inventory at least yearly.

c. Flammable and Combustible Liquids.

(1) The quantity of flammable and combustible liquids stored in a laboratory room shall not exceed 60 gallons or a month's supply, whichever is less.

(2) Flammable and combustible liquids shall be stored in glass, metal, or plastic containers which meet the requirements of NFPA 30. Class I liquids shall be stored in approved safety cans when the container quantity exceeds 2 gallons. Combustible liquids shall be stored in approved safety cans when the container quantity exceeds 5 gallons.

(3) Flammable and combustible liquids shall be stored in approved cabinets designed in accordance with NFPA 30. Cabinets shall not be located adjacent to an exit or in a stairwell. Cabinets shall not be vented without approval from the Installation Safety Office.

(4) The transfer of Class I liquids to smaller containers from bulk container not exceeding 5 gallons shall be conducted in a chemical hood or in an approved inside storage room. The transfer of Class I liquids from bulk containers exceeding 5 gallons shall be conducted in an approved inside storage room or outdoors.

(5) Class I liquids shall not be transferred between metal containers unless the containers are electrically grounded.

(6) Refrigerators and freezers used to store flammable liquids shall be explosion proof or "laboratory safe" in accordance with NFPA 45.

d. Water Reactive Chemicals: Water reactive chemicals shall be segregated from other chemical storage. These chemicals shall be stored in approved cabinets designed in accordance with NFPA 20.

Appendix V

CHAPTER 25, APPENDIX V
CHEMICAL AND BIOLOGICAL SIMULANT OPERATIONS LICENSING

Reference.



REPLY TO
ATTENTION OF

CSTE-DTC-MS-S (385)

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY DEVELOPMENTAL TEST COMMAND
314 LONGS CORNER ROAD
ABERDEEN PROVING GROUND MD 21005-5055



S: 13 January 2003

DEC 17 2002

MEMORANDUM FOR DTC Test Center Commanders

SUBJECT: Command Policy - Safety of Chemical and Biological Simulant Operations

1. I am concerned about the safety of DTC's chemical and biological simulant operations. We must re-evaluate the adequacy of our simulant operations to ensure we provide effective safeguards for all personnel involved. As such, I am directing the implementation of a licensing program which will grant you authority to conduct chemical and biological agent simulant operations by specific simulant and in accordance with the procedures, conditions, and controls outlined therein. I want licenses in place NLT 31 Jan 03.
2. The approved license will serve as your authority to conduct simulant operations and to oversee the conduct of such operations by other organizations at your test center. License conditions must be followed by any organization conducting simulant operations at your test center. Prior to authorizing any other organization to conduct simulant operations at your test center, you will receive written acknowledgement that said organization knows, understands, and will comply with your simulant operations license provisions. Failure to comply with the licensing requirements will result in revocation of operations authority at the test center. In addition, your license provisions must also be followed by your organization during the conduct of simulant operations at any location outside of your test center. Any future simulant operations that will deviate from your approved license will require submission and approval of a license amendment to address the changes prior to conduct of the operation.
3. All safety requirements for simulant operations will be strictly followed. Personnel who do not comply will be subject to appropriate administrative/disciplinary actions.
4. Your license application is due to this HQ, CSTE-DTC-MS-S, NLT 13 Jan 03. The application must include the following information:
 - a. A list of each simulant to be used, in what form, and under what concentration limits.
 - b. Health hazard/toxicity data for the simulant(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.

DEC 17 2002

CSTE-DTC-MS-S (385)

SUBJECT: Command Policy - Safety of Chemical and Biological Simulant Operations

c. For testing involving outdoor dissemination of simulants, describe the procedures to be used to ensure adequacy of meteorological conditions and prediction of simulant dispersion. How will real-time conditions be monitored and who will give final on-site permission to disseminate simulants? How will control of all personnel with potential for exposure be maintained and informed of any changing test conditions?

d. Describe the training that all personnel involved in simulant operations already possess or will receive. How will training records be maintained?

e. How will control of tenant organization or test/training customer simulant operations be maintained?

5. Upon receipt of your license application, my staff will complete its processing by 31 Jan 03. Your license will be renewable on a 24-month basis per your application for renewal. Test centers not conducting or hosting chemical/biological simulant operations do not need to reply to this memorandum.

6. My staff POC is Mr. Dal M. Nett, CSTE-DTC-MS-S, mss@dtc.army.mil, DSN 298-1300.



MARVIN K. McNAMARA
Brigadier General, USA
Commanding

Appendix W

COR/COTR Available Training Providers and Courses

Please visit the individual websites to obtain additional information about the courses

Vendor	Available Courses	Method of Training
Federal Acquisition Institute www.faionline.com Free online classes	COR Mentor Program	Online - Internet Training
BLM National Training Center www.ntc.blm.gov Note: If website is not available, contact Kim Flanders at 602-906-5628	COR (24 hours)	Provided twice/year at BLM-NTC, Phoenix, AZ Available via Satellite or video tape.
Management Concepts Inc. Department www.mgmtconcepts.com	COR Course (40)	Classroom-Variou Locations
DOI University www.doiu.nbc.gov No Tuition Cost	COR/COTRs Basic Certification	Classroom-Departmental Learning Centers Albuquerque, NM Anchorage, AK Denver, CO Fairbanks, AK Golden, CO Reston, VA Sacramento, CA Seattle, WA Washington, DC
NW Procurement Institute-NPI www.npi-training.com	Aviation Contract Administration COR/COTR Cert Course - 40 hr Level I-COR/COTR Inspector 24 Level II - """" Workshop (16 or 24) Level III - """" Seminar (16 or 24) COR/COTR Refresher (8 or 16 hrs)	Classroom-Variou Places
USDA Graduate School www.grad.usda.gov	Contracting Basics for COTRs (24 hrs) Comprehensive COTR Workshop(40 hrs)	Classrm -Variou Places
Defense Acquisition University www.dau.mil	Variety of acquisition courses provided	See Website

Appendix X

Appendix X Motorpool Safety

Safe motorpool operations contribute to an effective maintenance program. Everyone must be involved in the success of the installation safety program. Safety becomes second nature when commanders, directors, supervisors, leaders, and equipment operators enforce common sense safety rules. These rules include the following:

- a. No smoking in shop areas.
- b. Proper storage of flammables/nonflammables.
- c. Clean and well lit ventilated work areas.
- d. Use of ground guides when backing.
- e. Enforce speed limits.
- f. Properly ground electrical equipment.
- g. Train in use of fire extinguishers.
- h. Use protective devices for eyes and ears.
- i. Secure loose parts, tools, and loads before vehicle operations.
- j. Inspect tools and equipment before attempting repairs.
- k. Remove the battery ground cable while working in the engine compartment.
- l. Use only approved cleaning solvents, never use gasoline.
- m. Use protective clothing.
- n. Use chock blocks and jack stands.
- o. Properly use tools.
- p. Properly recover and storage used POL.
- q. Practice POL spill control and other environmental disposable items.
- r. No horseplay allowed.
- s. Properly use compressed air and hydraulic equipment.
- t. Use safety cages when inflating tires.
- u. No contact lenses are worn while using welding equipment.
- v. Always use extreme caution when working with asbestos and other hazardous materials; ensure hazardous areas are marked.
- w. No privately owned vehicles are allowed to be driven or parked in an installation motor pool.