

**Tooele Army Depot-South Area  
Attachment 10  
Preparedness and Prevention Plan**

## **Preparedness and Prevention Plan**

### **1.0 Site wide Preparedness and Prevention Procedures**

#### **1.1 Overview**

##### **1.1.1 Regulatory Requirements**

1.1.2 This attachment describes the procedures to prevent hazards in Tooele Army Depot-South Area (TEAD-S or Facility) permitted hazardous waste storage areas. The security procedures are described in Attachment 9 (Security Plan). Attachment 10 (Preparedness and Prevention Plan) shall meet the requirements of Utah Admin. Code R315-270-14(b)(4), (5), (8), and (9), and Utah Admin. Code R315-270-15(c) and (d) as well as Utah Admin. Code R315-264-14, Utah Admin. Code R315-264-15, Utah Admin. Code R315-264-17, Utah Admin. Code R315-264-32, Utah Admin. Code R315-264-33, Utah Admin. Code R315-264-34, Utah Admin. Code R315-264-35, Utah Admin. Code R315-264-174, Utah Admin. Code R315-264-176, Utah Admin. Code R315-264-177; Utah Admin. Code R315-264-1080 through 1091; the Facility Standing Operating Procedures (SOPs); and other plans identified in Attachment 4 (Contingency Plan). The SOPs and plans contain information on the program or facility-specific procedures to prevent hazards. The procedures relative to the Permit are summarized below.

### **2.0 Waiver or Documentation of Preparedness and Prevention Requirements [Utah Admin. Code R315-270-14(b)(6), Utah Admin. Code R315-264-32, Utah Admin. Code R315-264-35]**

2.1 The Permittee is requesting no waivers for preparedness and prevention. The Facility's hazardous waste management units shall be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned discharge of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

### **3.0 Inspection Schedule [Utah Admin. Code R315-270-14(b)(5), Utah Admin. Code R315-264-15(b), Utah Admin. Code R315-264-73]**

3.1 The permitted storage structures, equipment, containers and treatment units within the Facility's hazardous waste management units shall be inspected regularly and frequently in accordance with Attachment 2 (Inspection Plan).

**4.0 Reserved**

**5.0 Reserved**

**6.0 Reserved**

**7.0 Reserved**

**8.0 Reserved**

**9.0 Reserved**

**10.0 Reserved**

**11.0 Reserved**

**12.0 Reserved**

**13.0 Equipment Requirements [Utah Admin. Code R315-264-32, Utah Admin. Code R315-264-33, Utah Admin. Code R315-264-34]**

**13.1 Internal Communications [Utah Admin. Code R315-264-32(a), Utah Admin. Code R315-264-33, Utah Admin. Code R315-264-34]**

13.1.1 In all the Facility's hazardous waste management units, internal communications and alarm signals shall be achieved primarily by voice, since all units are small enough for voice communication to be effective. Two-way radios shall be available for communications between Facility security and employees working at Area 10 waste storage igloos and the Open Detonation (OD) unit. Sounding a vehicle horn may also be used as an alarm signal.

**13.2 External Communications [Utah Admin. Code R315-264-32(b), Utah Admin. Code R315-264-33, Utah Admin. Code R315-264-34]**

13.2.1 All personnel entering and working within a hazardous waste management unit shall carry a communication device capable of summoning external assistance in an emergency. Employee teams working at the OD Conex shall be equipped with a communication device capable of summoning external assistance. Facility communications equipment shall be tested weekly to ensure proper function.

**13.3 Emergency Equipment [Utah Admin. Code R315-264-32(c), Utah Admin. Code R315-264-33]**

13.3.1 Emergency equipment identified in Attachment 4 (Contingency Plan) shall be maintained at the Facility to respond to emergency situations. The Fire Department shall be equipped with fire trucks and equipment for extinguishing fires and responding to chemical agent or other hazardous material spills. Fire extinguishers shall be located in transport vehicles when working at all permitted hazardous waste storage sites.

13.3.2 The Facility shall maintain supplies of personal protective equipment (PPE) and shall be equipped with a transport vehicle. Fire control, spill control, and a portable eyewash shall be kept on a transport vehicle and brought to the hazardous waste storage location where activities are being performed. When work is being performed at the OD Conex, fire control equipment shall be staged onsite in a vehicle. A spill kit shall also be permanently maintained at the OD Conex (when in use).

13.3.3 Emergency equipment at all Facility hazardous waste management units shall be inspected weekly, and shall be ready for immediate deployment in the event of an incident or accident. Available equipment for spill cleanup shall be listed in Attachment 4 (Contingency Plan).

**13.4 Water for Fire Control [Utah Admin. Code R315-264-32(d)]**

13.4.1 The Facility Fire Department shall maintain a 750-gallon per minute (gpm) pumper truck and a brush truck with a 200-gallon tank to fight fires. A fire hydrant is located about 4,800 feet from the OD Conex. Fire hydrants are located approximately 500 to 4000 feet from the Area 10 igloos. Small fires will be fought with fire extinguishers carried on all vehicles.

### **13.5 Aisle Space Requirements [Utah Admin. Code R315-264-35]**

- 13.5.1 Proper aisle space shall be maintained for all hazardous waste storage areas to allow unobstructed movement of personnel, materials handling equipment (MHE), and spill control and decontamination equipment.
- 13.5.2 A minimum aisle space of 2.5 feet shall be maintained in the Area 10 storage igloos. Sufficient aisle space shall be maintained at the OD Conex to allow for inspections and use of fire and spill control equipment.

### **13.6 Management of Ignitable or Reactive Wastes in Containers [Utah Admin. Code R315-270-15(c), Utah Admin. Code R315-264-176]**

- 13.6.1 Containers holding ignitable or reactive waste shall be stored in permitted storage areas located within Area 10 or the OB/OD Conex. These permitted storage areas exceed the requirement for containers to be more than 50 feet from the property line of the installation.

### **13.7 Management of Incompatible Waste in Containers [Utah Admin. Code R315-270-15(d), Utah Admin. Code R315-264-177]**

- 13.7.1 Incompatible wastes and materials shall not be placed in the same container or stored near other containers of incompatible wastes. Storage compatibility criteria, as described in 49 Code of Federal Regulations (CFR) Part 177 Subpart C Department of Transportation (DOT) Hazard Class (Division), shall be used when segregating wastes. No incompatible wastes shall be stored on the same pallet in permitted Facility hazardous waste storage units. Drums that have previously held hazardous waste shall not be re-used to store wastes or materials that are incompatible with that previously held.

### **14.0 Area 10, Container Storage [Utah Admin. Code R315-264-170 through 178]**

#### **14.1 General Information**

- 14.1.1 The Facility stores secondary wastes derived from chemical munitions operations and other hazardous wastes that are generated in the course of normal facility operations.

### **15.0 Emergency Equipment [Utah Admin. Code R315-264-32(c), Utah Admin. Code R315-264-33]**

- 15.1 Emergency equipment available for use in Area 10 is listed in Table 4-3, “Area 10 Emergency Equipment and Supplies” located in Attachment 4 (Contingency Plan).

### **16.0 Operating Requirements**

- 16.1 Hazardous waste storage requires many different management practices to ensure safe operations and protection of the environment. Local SOPs describe procedures for packaging agent-related waste, and the Facility Hazardous Waste Management Plan describes procedures for non-agent-related hazardous wastes, labeling containers, and performing waste inventories. Other management practices related to waste munition storage and handling are provided in the current Department of Defense Explosives Safety Board (DDESB) storage standards. Containerized hazardous wastes shall be managed according to Utah Admin. Code R315-264-170.

**16.2** The Facility property line is well over the required minimum 50-foot distance from the nearest permitted storage building or igloo, so ignitable or reactive waste may be stored in these facilities in compliance with Utah Admin. Code R315-264-176.

**16.3** An Operating Record shall be maintained for the life of the facility that specifies the location of each waste container and correlates waste analysis results to waste containers, as required by Utah Admin. Code R315-264-73. The contents of leaking or damaged containers shall be repackaged in Resource Conservation and Recovery Act (RCRA)-compliant containers. Headspace shall be left in all containers storing volatile liquid to avoid damage caused by expansion or contraction of wastes because of temperature changes.

**16.4 Container Management**

16.4.1 Container management activities in permitted storage igloos shall include visual inspections, labeling and inventorying containers in use, and over packing leaking containers.

16.4.2 No igloo storing munitions shall exceed the design and DDESB-designated quantities (net explosive weight) for munitions stored in the igloo. Munitions shall be stored in accordance with approved storage drawings for orientation of items and in accordance with the Facility permit.

16.4.3 A MHE aisle shall be maintained along the centerline within the storage igloos to facilitate inspections and movement of personnel around stacks. The MHE aisle shall allow movement of fire protection and decontamination equipment in case of emergencies. A 2.5-foot aisle space shall be maintained between palletized waste munitions and between rows of pallets in the permitted storage igloos. Different munition lots stored in the same igloo shall be separated by rows or other spacing or shall be identified by tags or signs. The igloos shall be closed and access shall be limited to authorized personnel. Storage management practices shall require that all containers be stored on pallets and that containers shall not be stacked.

16.4.4 A hazardous waste label shall be placed on each container or pallet with the following information:

- 16.4.4.1 Waste Stream Number,
- 16.4.4.2 Nomenclature,
- 16.4.4.3 Date of accumulation, and
- 16.4.4.4 Facility Information.

16.4.5 The Permittee shall perform all inspections in accordance with Attachment 2 (Inspection Plan) and appropriate Facility SOPs. Visual inspections shall be employed to detect liquid spills.

**17.0 Preventive Procedures, Structures, and Equipment [Utah Admin. Code R315-270-14(b)(8)]**

**17.1 Loading and Unloading [Utah Admin. Code R315-270-14(b)(8)(i)]**

17.1.1 Hazards associated with handling, loading, and unloading operations shall be minimized through the implementation of Facility SOPs. Hazards shall also be minimized by personnel receiving the proper training as required Attachment 3 (Training Plan). Hazardous waste containers shall be inspected prior to movement to make sure they are properly closed and tightly sealed. Containers shall be transported on pallets and loaded and unloaded with a forklift. One or more spotters shall

be used when hazardous waste is moved at any Facility hazardous waste management unit. Ramps facilitate movement of MHE in and out of storage units.

**17.2 Runoff [Utah Admin. Code R315-270-14(b)(8)(ii)]**

17.2.1 Permitted storage igloo structures shall be totally enclosed, weather-tight, and above exterior grade.

**17.3 Protection of Water Supplies [Utah Admin. Code R315-270-14(b)(8)(iii)]**

17.3.1 Contamination of water supplies shall be prevented at the Facility by minimizing the risk of discharge of hazardous waste. This shall be accomplished by proper inspection and maintenance of hazardous waste containers, including mitigation of leaking containers, prompt cleanup of any spills, and proper construction and maintenance of storage structures. Personnel shall be properly trained and equipped to handle hazardous wastes in both normal and emergency situations.

**17.4 Mitigation of Equipment and Power Failures [Utah Admin. Code R315-270-14(b)(8)(iv)]**

17.4.1 Area 10 permitted storage igloos do not require power for normal operations. Portable generators shall be used for special operations requiring power. If the generators or any other special equipment fails during operations, the activity shall be suspended until the equipment is repaired or replaced. Emergency backup generators shall provide power for surveillance systems in the event of a power outage. The Facility has numerous emergency portable generators to provide backup for any operations requiring emergency power.

**17.5 Personal Protective Equipment (PPE)[Utah Admin. Code R315-270-14(b)(8)(v)]**

17.5.1 Various levels of PPE are worn to protect workers from chemical exposure at the Facility. Stocks of PPE appropriate for all hazardous materials managed at the Facility shall be maintained onsite.

17.5.2 The potential for exposure of personnel to any hazardous materials during operations shall be minimized through monitoring and decontamination of PPE and other equipment before, during, and after use in an area known to be contaminated or potentially contaminated. Facility SOPs or health and safety plans shall be used to prepare PPE for either reuse or storage for eventual disposal.

**17.6 Prevention of Reaction of Ignitable, Reactive, or Incompatible Waste [Utah Admin. Code R315-270-14(b)(9), Utah Admin. Code R315-264-17]**

17.6.1 All wastes stored at the Facility that are listed as ignitable or reactive shall be protected from sources of ignition or reaction (e.g. open flames, smoking, welding, radiant heat, or heat from friction, sparks, spontaneous ignition, etc.). Fusible links shall be used that close igloo ventilation dampers in the event of high temperatures, thereby minimizing the danger from fire. Attachment 1 (Waste Analysis Plan) lists ignitable or reactive wastes stored at the Facility which include spent high efficiency particulate air filters, paint residues, and degreasing solvents. All hazardous wastes, not just the ignitable or reactive wastes, shall be protected from ignition sources. Ignitable waste shall not be stored in Area 10.

17.6.2 To prevent accidental ignition or reaction caused by a lightning strike, the permitted storage igloos are protected with a lightning protection system. The air terminal (lightning rod) on the

rear vent stack is placed at least one foot higher than the top of the vent. Grounding rods are also attached to the igloos.

- 17.6.3 Smoking and spark-producing devices shall not be allowed in units storing waste. Automatic lighters are installed in permitted smoking areas. No smoking signs shall be posted at the entrance of Area 10. The Fire Department shall issue hot work permits for all operations that involve spark- or flame-producing operations.
- 17.6.4 A list of ignitable (D001) and reactive (D003) wastes stored in permitted storage areas is provided in Attachment 1 (Waste Analysis Plan), Table 1-1-1, RCRA Hazardous Waste Designation and Rationale. Precautions shall be taken with regard to storage to ensure that ignitable and reactive wastes are not exposed to ignition sources or other conditions that could initiate a reaction. Containers storing incompatible wastes at the Facility shall be segregated, and incompatible wastes shall not be mixed. No Smoking signs shall be posted at the entrance to Area 10 and all other permitted hazardous waste units. Workers shall be trained annually in proper handling and storage of hazardous waste as required by Attachment 3 (Training Plan). Training for Facility employees shall provide instruction for proper handling and protection from sources that could ignite or cause a reaction with munitions. The training for employees shall also provide instruction on the proper handling of munitions and related waste. General safety requirements in Facility SOPs, reviewed with employees, shall provide instructions for properly handling munitions.
- 18.0 **Inspection and Maintenance** [Utah Admin. Code R315-270-14(b)(5), Utah Admin. Code R315-264-15(b), Utah Admin. Code R315-264-73;
- 18.1 Frequency of facility inspections are defined in Attachment 2 (Inspection Plan) and are based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections.
- 19.0 **Reserved**
- 20.0 **Reserved**
- 21.0 **Reserved**
- 22.0 **Reserved**
- 23.0 **Reserved**
- 24.0 **Reserved**
- 25.0 **Reserved**
- 26.0 **Reserved**
- 27.0 **Open Detonation Conex**
- 27.1 **General Information**

27.1.1 The OD Conex is located in the OD area of the Facility. The purpose of the OD Conex shall be to store conventional munitions that have been designated as hazardous waste prior to treating them in the OD area.

## **27.2 Emergency Equipment**

27.2.1 A spill kit is stored at the OD Conex.

27.2.2 A fire hydrant is located about 4,800 feet from the OD Conex. Small fires shall be fought with fire extinguishers carried on all vehicles.

## **27.3 Operating Requirements**

27.3.1 Reserved.

## **27.4 Preventive Procedures, Structures, and Equipment [Utah Admin. Code R315-270-14(b)(8)]**

### **27.5 Loading and Unloading [Utah Admin. Code R315-270-14(b)(8)(i)]**

27.5.1 Hazards associated with handling, loading, and unloading operations shall be minimized through the implementation of Facility SOPs. Hazards shall also be minimized by personnel receiving the proper training as required by Attachment 3 (Training Plan). Hazardous waste containers shall be inspected prior to movement to make sure they are properly closed and tightly sealed. Containers shall be transported on pallets and loaded and unloaded with a forklift. One or more spotters shall be used when hazardous waste is moved at any Facility hazardous waste management unit. Ramps facilitate movement of MHE in and out of storage units.

### **27.6 Runoff [Utah Admin. Code R315-270-14(b)(8)(ii)]**

27.6.1 The OD Conex storage building is mounted on rollers, positioning a stored container about 4 inches above exterior grade. An earthen berm surrounding the OD Conex provides further protection from run-on and controls any runoff.

### **27.7 Protection of Water Supplies [Utah Admin. Code R315-270-14(b)(8)(iii)]**

27.7.1 Contamination of water supplies shall be prevented at the Facility by minimizing the risk of discharge of hazardous waste. This shall be accomplished by proper inspection and maintenance of hazardous waste containers, including mitigation of leaking containers, prompt cleanup of any spills, and proper construction and maintenance of storage structures. Personnel shall be properly trained and equipped to handle hazardous wastes in both normal and emergency situations.

### **27.8 Mitigation of Equipment and Power Failures [Utah Admin. Code R315-270-14(b)(8)(iv)]**

27.8.1 Any activities at the OD Conex requiring power shall be supported by portable equipment. No power is required for the building to remain in a safe standby status.

### **27.9 Personal Protective Equipment [Utah Admin. Code R315-270-14(b)(8)(v)]**

27.9.1 Personal protective equipment shall be supplied to personnel working at the OD Conex as appropriate to accomplish assigned tasks in a safe manner.

**27.10 Prevention of Reaction of Ignitable, Reactive, or Incompatible Waste [Utah Admin. Code R315-270-14(b)(9), Utah Admin. Code R315-264-17]**

- 27.10.1 All wastes stored at the Facility that are listed as ignitable or reactive shall be protected from sources of ignition or reaction (e.g. open flames, smoking, welding, radiant heat, or heat from friction, sparks, spontaneous ignition, etc.). Fusible links shall close igloo ventilation dampers in the event of high temperatures, thereby minimizing the danger from fire. Attachment 1 (Waste Analysis Plan) , lists ignitable or reactive wastes stored at the Facility, which include spent high efficiency particulate air filters, paint residues, and degreasing solvents. All hazardous wastes, not just the ignitable or reactive wastes, shall be protected from ignition sources..
- 27.10.2 To prevent accidental ignition or reaction caused by a lightning strike, the permitted storage igloos are protected with a lightning protection system. The air terminal (lightning rod) on the rear vent stack is placed at least one foot higher than the top of the vent. Grounding rods are also attached to the igloos.
- 27.10.3 Smoking and spark-producing devices shall not be allowed in units storing waste. Automatic lighters are installed in permitted smoking areas. No smoking signs shall be posted in all permitted storage areas, 90-day storage areas, and SASs. The Fire Department shall issue hot work permits for all operations that involve spark- or flame-producing operations.
- 27.10.4 A list of ignitable (D001) and reactive (D003) wastes stored in permitted storage areas is provided in Attachment 1 (Waste Analysis Plan), Table 1-1-1, RCRA Hazardous Waste Designation and Rationale. Precautions shall be taken with regard to storage to ensure that ignitable and reactive wastes are not exposed to ignition sources or other conditions that could initiate a reaction. Containers storing incompatible wastes at the Facility shall be segregated, and incompatible wastes shall not be mixed. “No Smoking” signs shall be posted at the entrance of Area 10 and all other permitted units. Workers shall be trained annually in proper handling and storage of hazardous waste, as identified in Attachment 3 (Training Plan). Training for Facility employees shall provide instruction for proper handling and protection from sources that could ignite or cause a reaction with munitions. The training for employees shall also provide instruction on the proper handling of munitions and related waste. General safety requirements in Facility SOPs, reviewed with employees, shall provide instructions for properly handling munitions.

**27.11 Inspection and Maintenance [R315-270-14(b)(5), R315-264-15(b), R315-264-73]**

- 27.11.1 Frequency of facility inspections are defined in Attachment 2 (Inspection Plan) and are based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections.

**28.0 Open Detonation Unit**

**28.1 Internal Communications**

- 28.1.1 The OD Area is serviced with a mobile telephone and a two-way radio. The telephone and the two-way radio are maintained in good working order and checked by Demilitarization (Demil) Team personnel prior to going to the area.

**28.2 External Communications**

28.2.1 Communications with off-site emergency agencies shall be conducted by the Installation On-Scene Coordinator (IOSC) or the On-Scene Commander (OSC). These personnel shall be contacted by the Demil Planner, who shall be contacted by portable radio and/or mobile telephone by the Demil Team Leader.

### **28.3 Fire and Spill Control**

28.3.1 Firefighting equipment is readily available at the OD area during operations. The equipment consists of hand tools and fire extinguishers. Additional emergency equipment is stored at the TEAD-S Fire Department. This equipment includes respirators, protective clothing, fire extinguishers, and first aid kits. TEAD-S Fire Department personnel, trained in responding to hazardous materials emergencies, have ready access to the area and are dispatched to the scene in case of emergency.

28.3.2 Prior to beginning OD operations, the Demil Team Leader or his designated representative shall arrange to have the areas around the operations site cleared of vegetation. Firebreaks are cut around and within the OD area. Access roads serve as firebreaks. After each detonation, the area is swept for fires.

28.3.3 Workers are not allowed to engage in fire fighting if the size or condition of the fire would endanger their life or health.

28.3.4 In addition, the TEAD-S Fire Department stores and maintains an inventory of spill control and containment materials. This includes shovels, overpack drums and specialized tools. Large quantities of absorbent socks, pads, mats, sheets, bales, pillows, and pulp are also stored in the Fire Station.

28.3.5 The TEAD-S Fire Prevention and Protection Branch responds to fires and provides the initial response. They evacuate and assess the area. Meanwhile, the members of the TEAD-S Fire Department start decontamination procedures.

### **28.4 Equipment Testing and Maintenance**

28.4.1 Preparedness and prevention equipment is inspected in accordance with Attachment 2 (Inspection Plan).

### **28.5 Contingency Arrangements and Coordination Agreements**

28.5.1 The Permittee shall maintain reciprocal agreements with area fire departments, law enforcement agencies and hospitals. TEAD-S has its own fire department and security organizations, which will be the primary responders to emergencies. This plan and others dealing with hazardous waste management are reviewed by these organizations so that they may become familiar with the hazards and properties of the materials and the facilities at TEAD-S.

28.5.2 The OSC is the primary emergency authority. All decisions concerning the type of emergency response (i.e., firefighting technique, traffic control, medical treatment, isolation/evacuation requirements, air sampling, and spill containment/cleanup) are made by the OSC and the emergency response team members.

28.5.3 Ambulance Support is provided by the TEAD-S Fire Department 24 hours per day every day of the year.

## **28.6 Loading and Unloading Operations**

28.6.1 The following requirements will be observed in the operation of Government-owned/leased motor vehicles transporting explosives, ammunition, and other hazardous material:

28.6.1.1 When a motor vehicle approaches within 25 feet of the doors of a structure, through which a shipment is to be moved, the doors must be kept closed until the motor has been switched off; unless the exhaust system is equipped with a spark arresting device or no exposed explosives are present. Exposed explosives exclude finished ammunition and explosives packaged for shipment per DOT regulation.

28.6.1.2 No explosives will be loaded into or unloaded from motor vehicles while their motors are running except when required to provide power to vehicle accessories such as mechanical handling equipment used in the loading and unloading of the vehicle, provided:

- a) The accessory is an integral part of the vehicle.
- b) The exhaust gases from the motor are emitted at least 6 feet from the point at which the loading operations are conducted and are directed away from this point.
- c) The exhaust pipe is equipped with a spark arrester.
- d) Materials being loaded or unloaded, which may evolve flammable vapors, are enclosed in tightly fitting containers.

28.6.1.3 The brakes of conveyance must be set when parked. When parked on a grade, at least one wheel must be chocked. Safety jacks may be necessary to support a semitrailer during the loading and unloading when the trailer is not coupled to a tractor.

28.6.1.4 During unloading operations, compatibility requirements are maintained. Any unloaded initiator, combustible material and fuels are positioned a safe distance from explosives or ordnance.

28.6.1.5 Transport vehicles are removed from the hazard area before the containers are opened.

28.6.2 Items are packaged in containers of strength equal to or greater than those described in 49 CFR Part 173 Subpart C – Definitions, Classifications and Packaging for Class 1.

## **28.7 Runoff**

28.7.1 OD operations are not conducted during periods of precipitation or during flooding. All energetic materials are completely destroyed during detonation and no hazardous residues are generated. Hence, there is no potential that run-on or run-off from the area will contact wastes or hazardous residues. On-going site management, to include grading of the OD area, will minimize potential runoff.

## **28.8 Protection of Water Supplies**

28.8.1 No known drinking water supplies are located within a mile of the OD area.

## **28.9 Mitigation of Equipment and Power Failures**

- 28.9.1 Power outages and lighting strikes are not anticipated to be a cause of problems at the OD Unit. All OD operations are halted or canceled during an electrical storm. OD operations are conducted only within well-defined weather conditions as specified in Module VII.
- 28.9.2 If a truck breaks down and cannot be towed to its destination, a guard will be stationed at the truck site. The Permittee will dispatch a truck at once with loading personnel to transfer the load to a replacement vehicle.

## **28.10 Personnel Protection Procedures**

28.10.1 The handling of waste explosives is conducted in a manner that minimizes contact of involved personnel with the waste. All handling operations and requirements for protective clothing are in accordance with SOPs. Protective clothing includes explosive handler coveralls, steel-toed safety shoes and safety glasses. Additional equipment may be required by a specific SOP for a particular ordnance item.

## **28.11 Prevention of Accidental Ignition or Reaction of Waste**

28.11.1 All hazardous materials and hazardous wastes handled at the Facility OD Area are assumed to be reactive, since they are military ordnance and only reactive wastes may be treated at the site. Non-reactive wastes are not treated at the OD Area. All personnel working in the OD Area must take all appropriate measures to prevent incidents that generate uncontrolled extreme heat or pressure, fire or explosions or violent reactions; produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; produce uncontrolled inflammable fumes or gases in sufficient quantities to pose a risk of fire or explosion; or through any other means, threaten human health or the environment.

28.11.2 OD operations generate heat, pressure (shock waves), explosions, and violent reactions. The intent of the OD operations is to initiate these phenomena in a controlled setting. The means to prevent unintended reactions is provided through the establishment of safety guidelines implemented through SOPs. As summarized below, the safety guidelines include, but are not limited to, the following:

28.11.2.1 Unauthorized ignition sources such as flame-producing devices are prohibited at the OD area at any time;

28.11.2.2 Sparking equipment and tools are prohibited near explosive materials unless specifically authorized by the Demil Supervisor;

28.11.2.3 All hand tools and mechanical devices are inspected prior to use to ensure their safety;

28.11.2.4 Motor vehicles used to transport waste explosives, ammunition, or other material meet the requirements of the applicable SOP;

28.11.2.5 OD operations are conducted only within well-defined weather conditions as specified in Module VII;

28.11.2.6 The material is protected against accidental ignition or explosion from fragments, grass fires, burning embers, or the impulse associated with materials being detonated;

28.11.2.7 Dry grass, leaves and flammable/combustible materials are removed from around the OD area;

28.11.2.8 Initiators (e.g., blasting caps, primers) and explosives are packaged, transported, and handled separately until placement for treatment; and

28.11.2.9 Engines of transport vehicles are turned off prior to the unloading of munitions.

28.11.3 These procedures are in use at various Department of Defense OD operations throughout the country. Experience has shown that when they are followed, the danger of accidental detonation or combustion is negligible.