

**'BURIAL MOUND DECOMMISSIONING PLAN  
FORT McCLELLAN**

**APPENDIX 1**

**PROJECT HEALTH AND SAFETY PLAN**

U.S. Army Fort McClellan  
Fort McClellan, Alabama  
HQ, IOC Project Number USA 98-046

PHASE III

DECOMMISSIONING OF THE 'BURIAL MOUND'

HEALTH AND SAFETY PLAN

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February 1999

U.S. ARMY FORT McCLELLAN

DECOMMISSIONING OF THE 'BURIAL MOUND'

PROJECT HEALTH AND SAFETY PLAN

APPROVAL PAGE

February 1999

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## 1.0 INTRODUCTION

The Project Health and Safety Plan incorporates the health and safety procedures and practices to be followed during the activities specified in the Fort McClellan 'Burial Mound' Decommissioning Plan. This Project Health and Safety Plan will be used to support the work activities and will be verified with the guidelines specified in the Allied Technology Group, Inc. (ATG) Corporate Health and Safety Plan. This Project Health and Safety Plan includes radiological, industrial, environmental, and biological health and safety concerns and considerations.

ATG is committed to follow the procedural practices detailed in ATG Field Procedures, AD-0004, "Administrative/Regulatory/ALARA Compliance - Policy & Procedure" and AROP 106, "ALARA Guidelines" to ensure ALARA policies and practices are enacted and followed during all decommissioning activities to be conducted at Fort McClellan, ensuring all dose received is maintained as low as reasonably achievable.

## 2.0 SCOPE OF WORK

The contents and immediately adjacent soils at the 'Burial Mound' in the Pelham Range at Fort McClellan near Anniston, Alabama will be removed, radiologically monitored, sorted, the contaminated fraction appropriately disposed, and a release survey of the site will be performed by ATG personnel following the guidelines specified in the Decommissioning Plan. For the purpose of this contract, all contaminated material will be handled with radiological contamination controls in place. Phases I and II of this project involved the waste profiling of the 'Burial Mound' for acceptance for disposal at Envirocare of Utah, and the development of the Decommissioning Plan, respectively. Phase II additionally included the derivation of site-specific release criteria. This HASP provides for Phase III, which involves mobilization, site set up, the removal and systematic radiological screening and sorting of soils from the 'Burial Mound' and adjacent areas into affected and unaffected categories, packaging and transportation of the LLRW for off-site disposal, the verification survey to achieve unconditional release using the protocols of the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, NUREG-1575), and demobilization.

No adverse impacts are expected during the performance of this contract. There will be no expected air emissions, liquid releases, personnel exposures or environmental impacts during the packaging and shipping of any contaminated material. The work tasks will be performed by trained and qualified personnel. Oversight and monitoring will be performed by trained and qualified personnel in accordance with the Health and Safety Plan procedures.

### 3.0 HAZARD ASSESSMENT

Hazard assessment will be evaluated in six categories; unexploded ordnance, radiological hazards, industrial hazards, environmental hazards, bloodborne pathogens and lead hazards. Appropriate personnel protection equipment, monitoring devices and data acquisition will be applied for all hazards.

#### 3.1 Unexploded Ordnance

It is not anticipated that unexploded ordnance will be encountered during work activities, but caution is appropriate. Before digging or excavating the 'Burial Mound' area on the range, the area will be first cleared by ATG Explosive Ordnance Disposal (EOD) personnel. An initial surface clearance survey will be performed, which will be supplemented by continuous surveillance activities during material removal operations. The project OE (Ordnance and Explosives) Avoidance Plan, found as Appendix 3 of the Decommissioning Plan, will be implemented in the field.

#### 3.2 Radiological Hazards

It is expected that an individual performing work on this project will receive an external occupational exposure of less than 500 millirem (mRem), which is the sensitivity limit of the TLD vendor. The highest indicated dose rate in the 'Burial Mound' during hole-logging was found to be equivalent to 2.5 mRem/hr. Although actual analysis indicated only limited concentrations of Co-60 (330 pCi/gm, max.) and Cs-137 (179 pCi/gm, max.), a conservative estimate of individual exposure may be represented as : 10 hours/day for 20 days yielding  $10 \times 20 \times 2.5$  or 500 mRem. However, given the technique used to extract and handle the waste stream, using mechanized equipment, the operators will have a typical distance separating them from the contaminated material of 3' to 6'. Employing the conservative 3' distance factor, the maximum exposure rate is reduced to approximately 0.3 mRem/hr, resulting in a realistic maximum external exposure of  $10 \times 20 \times 0.3 = 60$  mRem.

The isotopes that ATG expects to encounter during the performance of this work are Co-60 and Cs-137, based upon the characterization performed in late 1995 and early 1996, and subsequent waste profiling efforts more recently (May '98). ATG will be surveying and monitoring for broad spectrum analysis during the removal, monitoring, and packaging process.

The principal internal hazards from Co-60 and Cs-137 are their chemical toxicity for soluble compounds and the radiation dose to the lung, bone and large intestines for insoluble compounds. Therefore, personnel working with materials containing the

contaminants of concern require training in radiological control practices. This training will help to ensure that the radioactivity does not become an internal hazard to the workers or to members of the general public. Breathing radiologically contaminated airborne dusts will be the most likely method of entry into the body and becoming an internal hazard. The airborne concentrations of Co-60 and Cs-137 shall be managed for prevention at best, but at least to levels no greater than 50% of the Derived Airborne Concentration (DAC) value. The derived airborne concentration for Co-60 is  $1 \times 10^{-8} \mu\text{Ci/ml}$ , and for Cs-137 is  $6 \times 10^{-8} \mu\text{Ci/ml}$ . Thus the 50% value, which will be the action level for this project, will be  $5 \times 10^{-9} \mu\text{Ci/ml}$ , which is one-half of the most conservative limit. Breathing the 50% DAC value for Co-60 or  $5 \times 10^{-9} \mu\text{Ci/ml}$  for approximately 200 hours involved in actual physical or airborne producing activities will result in an Annual Level of Intake of 5% of the 5 rem limit, or 250 mrem.

Additional exposure to radiation will come from the reference sources used in performance tests of the radiation detection equipment and from the samples taken to assess the potential hazards. The reference sources, which may include Tc-99, Th-230, Co-60, and Cs-137 will be used by the Radiation Protection Technician and will be maintained in a labeled and locked container. Samples taken to monitor the potential hazards will be sealed and handled appropriately and in as short amount of time as possible. The Radiation Protection Technician will handle and analyze the samples employing the appropriate precautions to prohibit personal cross-contamination and limit external exposure.

### **3.3 Industrial Hazards**

Industrial hazards for this project should be limited to mechanical failures, heavy loads, suspended loads, physical stress and extreme temperature exposure.

Lifting, suspending, moving and packaging of materials could cause wear and tear on the equipment or fatigue to the workers. Mechanical failure will be reduced by using equipment in near new condition and not over-loading the equipment. Equipment will be visually inspected prior to each use to reduce the potential for failure. Personnel safety equipment shall be required for field work on this project. Safety shoes, hard hats, and safety glasses will be required for personnel at the discretion of the Project Manager or designated alternate.

Physical stress could occur if an individual tries to lift items that are too heavy or oversized. Individual lifting limits will be 50 lbs. Items that are odd shaped or bulky will be lifted by more than one individual or by a mechanical means.

Accidents will be handled on a case by case basis and will be evaluated by the Project Health and Safety Manager or designated alternate to determine if preventive measures can be applied to preclude the accident from recurring.

Complications from high temperature exposure, such as heat stress, will be handled with medical treatment as deemed necessary by the Project Health and Safety Manager or designated alternate. The first round of treatment is prevention through appropriate training, monitoring, and regimented practices.

### **3.4 Environmental Hazards**

Hazards to the environment could most likely occur from abnormal weather, an accident or from carelessness while performing the work tasks. Controlling the amount of unsealed material, at any given time, will reduce the extent of an environmental impact. Affected materials, as suspected prior to screening and as verified by subsequent radiological monitoring, will be packaged as soon as practical. Where the volume of impacted materials may temporarily exceed existing on-site packaging capacity, the staged material will be covered by an impervious materials and anchored in place to inhibit the impact of weather and the prospect of migration of contamination. Silt fencing will additionally be placed at strategic locations in the work area to control potential precipitation in-flow onto impacted areas, and prevent suspect and/or contaminated sediment out-flow.

### **3.5 Bloodborne Pathogens**

Bloodborne pathogens are micro-organisms in human blood that can cause disease. Although health care workers have long worked with the threat of exposure to bloodborne pathogens, exposure was viewed in a different light once AIDS was recognized.

Because the virus that causes AIDS is said to always be fatal, there has been increased concern about bloodborne pathogens in the last 15 years. AIDS, however, is not the only source of concern; other diseases caused by micro-organisms include malaria, syphilis and hepatitis-B virus (HBV).

The purpose of this notice is to establish requirements with the intent to protect those employees who have a significant potential of exposure to Bloodborne Pathogens which may cause such disease as Human Immunodeficiency Virus and Hepatitis-B Virus. Principally at risk are those designated to be first-aid providers/first-responders. Specific information is found in section 4.2.6.

### 3.6 Lead

Metallic lead is not a contaminant of concern, as it was neither mentioned in historical data nor found in recent waste profile analysis. However, as in the case of possible UXO material at a military range, lead from historical ballistics or light weaponry fire may become a project concern.

The principle hazard for lead as with any heavy metal, is renal chemical toxicity. Personnel exposure to lead contamination shall be controlled by wearing protective gloves and clothing while handling the material. Internal contamination may be possible through inhalation.

Lapel air samples will be collected for lead concentrations to monitor individual exposure during the course of remediation efforts where airborne activity could be generated. These lead breathing zone samples will be sent to a third party laboratory for analysis during the project.

## 4.0 WORKER PROTECTION

### 4.1 Personnel Protection

The field work on the decommissioning of the 'Burial Mound' involves the hazards typically present during radiation work, in addition to the dynamic conditions from excavation and earth moving tasks. In general, ATG work procedures are in effect for safety of our workers and others. However, the following points are to be emphasized.

#### 4.1.1 Contamination Control

The most important tasks for contamination control are the removal of the 'Burial Mound' and adjacent grid contents, and the comprehensive radiological screening by direct monitoring and subsequent verification sampling and QC measurements. It is anticipated that the total activity in the 'Burial Mound' approximates:

Mean of 30 pCi/gm Co-60 + 5 pCi/gm Cs-137 = 35 pCi/gm ,conservatively  
 $35 \text{ pCi/gm} \times 300 \text{ CY} \times 27 \text{ CF/CY} \times 92 \text{ lb./ft}^3 \times 454 \text{ gm/lb.} = 1.18\text{E}10 \text{ pCi} = 11.8 \text{ mCi}$

The estimated activity is considered conservative in nature. The storage quantity for the mound included in the NRC license for Fort McClellan, reportedly derived from the earlier characterization event, limits the Co-60

to 8 mCi and Cs-137 to 0.5 mCi. This activity does not represent a significant hazard but should not be allowed to be distributed outside of the controlled area in order to maintain doses to personnel ALARA.

#### **4.1.2 Industrial Safety**

Industrial safety is an important consideration on this job. Several operations will involve use of heavy equipment which will require qualified operators and care in assignment of personnel in the area of this equipment during operation.

- 4.1.2.1 Excavator (track-hoe) operations will be performed to initially extract the know area of impacted material in the 'Burial Mound'. Subsequent excavation to remove the balance of material from the prescribed grids to the targeted depth of 12' below grade will also employ the excavator for remote reach during sloping of the banks and depth removal without physically occupying the excavation. All personnel must be made aware when the large excavation unit is in operation. All personnel will stand clear of these operations.
- 4.1.2.2 A wheel loader will be used to remove the impacted pile at the mound located above grade. The wheel loader will initially directly convey the pile contents to the soil monitoring equipment. Only personnel associated with this operation will be in the area of the wheel loader while it is in motion. A lead technician will be assigned to this area to enforce safety restrictions associated with this operation.
- 4.1.2.3 A skid steer loader will be used to transfer monitored material to the respective staging areas. Unaffected material will be placed in lifts over a wide pile. Affected material will be placed in intermodal containers. Any access material will be staged in a designated area and appropriately covered, pending the availability of additional packages.
- 4.1.2.4 A water trailer (or truck) equipped with a pressure washer will be used as necessary for misting the soil waste stream during the excavation effort for dust suppression.
- 4.1.2.5 The soil monitoring system, comprised of a feed hopper, and auger for soil preparation, and a conveyor to move the soil through the

detector array, will be manned at all times. The detectors will be continuously monitored by the designated HP tech. The entire system will have multiple kill switches for ease of operation cessation.

- 4.1.2.5 All personnel will be required to wear safety glasses, steel toe shoes, and hard hats while in any work area during operations.

### **4.1.3 Procedures**

#### **4.1.3.1 Site Control**

The work site will be clearly marked and access will be limited to ATG personnel and authorized visitors. Walkways and paths will be rerouted as necessary to limit access to the area. Postings will be in place to notify people of restricted access, hazards associated, and PPE required.

#### **4.1.3.2 Confined Space Entry**

A confined space is any space that has a limited means of egress and is subject to an accumulation of toxic or flammable contaminants or has an oxygen-deficient atmosphere. Confined spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation, or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open-top spaces more than four feet in depth such as pits, tubs, vaults, and vessels.

A confined space will not be entered until atmospheric conditions are monitored and the area is verified safe. A valid "Confined Space Entry Permit" must be posted, reviewed, and in effect prior to entry. Fuel operated equipment will not be used in or near the opening or air intake for a confined space due to the potential for carbon monoxide build up. Confined space blowers will be used if necessary to ventilate the area and refresh the air. All entrants and spotters must review the rescue procedures before entry. All personnel entering the confined space must wear a safety harness with a secured lifeline in the event they need to be pulled out of the area.

A spotter will remain in continuous visual and voice contact with personnel in the confined space. The spotter must account for all entrants and will not leave the post unless relieved by a competent person. The area will be continuously monitored while personnel are in the confined space due to the potential of changing atmospheric conditions.

#### **4.1.3.3 Excavations**

An "Excavation Permit" or equivalent document must be obtained prior to digging. Shoring and sloping for excavated sites will be performed in accordance to the guidelines set forth in 29CFR 1926 Subpart P. Any excavations which affects an existing structure, support, or building, must be approved prior to excavation by a Professional Engineer. If underground utilities are present, hand tools will be used to determine their exact location before heavy machinery is used. Personnel will not enter an excavated site unless proper shoring or sloping is in place and air monitoring has been performed. Personnel will not place themselves between underground storage tanks that are not secured within an excavated site due to potential ground shifting that could cause a tank to tip or roll. Excavated area 3 feet or deeper will have a stairway, ladder, ramp, or other safe means of egress located within 25 feet of personnel in the excavated site.

Excavated areas will be barricaded to prevent pedestrians and vehicles from entering the area. The area must be barricaded prior to the excavation of the site. Excavation, dirt, equipment, or materials must be at least two feet from the edge of the excavation.

All shoring must be inspected daily and more often in wet weather. The excavation walls must be inspected after a heavy rain or thaw. All excavations and trenches must be inspected daily by a competent person.

Personnel working in an excavation will not be permitted to be within five feet of the swing or extension radius of any power shovel, backhoe, loader, etc. Personnel will not be allowed below any material being removed or placed. Tag lines will be used to maintain distance from materials being removed or installed with a crane.

#### 4.1.3.4 Hazardous Energy Control

All personnel that work on or near energy sources should have completed and documented Site Training which covered this subject. Danger tags are used only to prevent operation of a switch, valve, or piece of equipment in cases where someone may get hurt or equipment may be damaged. Lockout/Tagout procedures will be used to prevent energy sources from becoming energized while personnel or equipment are in the area. The personnel working in the hazardous energy area must personally lock and tag the energy source out. A signed and dated tag will be placed on the system after it is locked out.

The system must be tested after locking to ensure it is de-energized prior to starting work. Prior approval must be obtained before de-energizing a system. Only the person that placed the lockout/tagout on a system can remove it and only after all personnel are clear from the work area. All personnel that are working in the area must have their own lockout / tagout in place on the system. Personnel cannot remove a lockout/tagout that was put in place by someone else. Once a tag is removed it must be destroyed and a new one used each time a system is locked out.

All electrical components will be treated as if they are energized regardless if lockout/tagout procedures are in place. Personal protective equipment will be inspected and worn when working on energy systems. Test equipment will be used to ensure systems are de-energized. Grounding equipment will be applied after the system has been de-energized. Caution must be used when removing enclosure covers, panels, or opening doors to expose electrical systems.

Work on or near electrical circuits will only be performed by qualified personnel who have been authorized to do the work.

Non-metal frame safety glasses are required when performing electrical work. Other conductive items such as metal hard hats, rings, watches, necklaces, earrings, etc. will not be worn when working on or near electrical systems. Electrical rated rubber gloves must be inspected for cracks, punctures, tears, etc. prior to wearing them.

Hand tools and power tools rated and insulated for electrical work will be used on or near power sources. Drills and penetrating equipment must be grounded so that accidental contact with an unexpected energized electrical source will be cleared quickly by the circuit protective device. Double insulated equipment cannot be relied on to provide protection when accidental contact is made with energized circuits.

#### **4.1.3.5 Welding and Burning**

All flammables and combustibles must be removed from the work area. A dry chemical fire extinguisher must be readily available before any welding or burning work is performed. Atmospheric conditions must be checked to ensure no explosive levels are present. Welding leads and burning hoses will be kept clear of walkways and roadways. If leads or hoses are to be elevated, they must be a minimum of seven feet above passage ways and cannot hang from conduit, process lines, sprinklers, etc. All U fittings, couplings, and connections must be tight. Fumes generated from the welding or burning process must be avoided by ventilation or use of a respirator.

No welding or burning will be performed on a vessel or tank that has not been cleared of any residual material they may have contained. Hoses and leads will be disconnected at the end of each shift. Fireproof screens or partitions will be put up if welding or burning is being performed near other people. Personnel will not lubricate caps, valves, or gauges. A fire watch will be present during, and a half hour after welding and burning. Welders and attendants will wear eye protection, goggles, or welding hood.

#### **4.1.3.6 Welding (Electric)**

When performing welding, all work must have a separate and adequate ground. The return current lead must be connected directly from the machine to the work location. A rod must not be left in the electrode holder when it is laid down and the stub ends must be placed in the proper container. The machine must not be left on at the end of a shift. An approved welding helmet with no less than a #10 filter plate with a safety plate on both sides must be worn. Electric welding cannot be performed from a metal ladder. Welding

cables will be free of cracks, breaks, bare conductors, and frayed insulation. Tape cannot be used as an insulator.

#### **4.1.3.6 Burning (Gas)**

Before connecting regulators to cylinders, the cylinder valve will be opened slightly to blow out any foreign particles. Once the regulator is connected, the valve will be opened slowly with the person standing to one side of the gauge. The second stage of the regulator will be closed before opening the cylinder valve. Oxygen cylinder valves will be wide open while fuel gas cylinders will be opened one-half only. When using acetylene, 15 psi will not be exceeded on the torch side of the gauge. The fuel gas valve on the torch will be opened before the oxygen valve when lighting a torch. Only an approved spark lighter will be used to light a torch.

Burning rigs will be broken down at the end of a shift by removing regulators and securing protective caps. Oil and grease will not be used on oxygen regulators, hose and fittings. Grease covered tools and equipment will not be stored in the same area as the oxygen equipment. All hoses, gauges and torches will be inspected quarterly and prior to use. All inspections will be documented. Approved burning goggles with at least a #3 filter with safety lens on both sides must be worn. A torch will not be left in a vessel, tank, or other closed container due to the potential for leakage. Oxygen will not be used in pneumatic tools to pressurize a container, to blow out lines, or substituted for compressed air or other gases. Compressed air will not be used to clean clothing, blow off debris, or clear the work area.

Cylinders and hoses will be placed away from sparks and slags generated from burning. Gas cylinders will not be taken into a confined space.

#### **4.1.3.7 Tools**

Equipment and tools will be used for their specific design and not rigged for purposes other than those specified by the manufacturer. Tools will not be used beyond their designed capacity. Tools will be inspected prior to each use. Damaged or worn tools will not be used and will be taken out of service. Tools taken out of service

will be marked with a "Do Not Use" tag or sticker until they can be properly disposed of or repaired. Tool subject to impact will be dressed to prevent flying steel fragments. Tools cannot be brought into or out of a radiological area without prior approval from a health physics technician.

#### **4.1.3.8 Portable Power Tools**

Power tools will not be operated by personnel that are not familiar with the manufacturer's requirement for the safe use of that tool. Precautions will be taken to prevent tools from binding up. Moving parts will be directed away from the body with physical contact with a powered part unless the power source is disconnected. Personnel working with power tools must be aware of personnel around them. Power tools will not be running when moving from one work area to another. Prior to each use, power tools will be inspected for damaged parts, loose fittings, and frayed or cut electric cords. Defective tools will be taken out of service and marked "Do Not Use". Electrical tools will be unplugged prior to performing maintenance or switching out parts.

Air pressure will be bled down before disconnecting air-powered tools. Electrical power tools must be grounded with a three prong plug. All hoses exceeding ½ inch inside diameter will have a safety device at the source of supply or branch line to reduce pressure in case of hose failure. Only manufacturer authorized safety clips or retainers will be installed on all hose connections to prevent accidental disconnection of the tool from the hose connection. All fuel-powered tools will be shut off prior to refueling. Proper guards or shields will be in place. A control lock on a hand-held power tool will not be permitted. Electrical tools will not be raised or lowered by the power cord.

#### **4.1.3.9 Ladders**

Ladders will be inspected prior to each use. Ladders will not be painted except to be marked with an identifier. If ladders must be placed in a doorway, the door will be barricaded and warning signs will be posted. If the doorway is a marked exit, then the door cannot be barricaded and a spotter must be used. A hand line will be used to raise or lower tools or materials so personnel do not carry

anything in their hands when ascending or descending a ladder. The ladder position will be changed as often as necessary to prevent excessive leaning or stretching on a ladder. When working from a ladder, both feet will be kept on the rungs and the person will be facing the ladder. If it is necessary to work backwards from a ladder, then the person must wear a safety belt and be tied off to a secure area and not to the ladder. Only one person is allowed on a ladder at one time unless "two-man" stepladders are being used. Metal ladders will not be used for electric welding or near any electrical lines or services. Ladders may be used on scaffolds only if secured and the user is tied off with a safety belt. If a ladder must be built to use on-site, it must conform with established OSHA standards and be approved by the Health and Safety Manager or designated alternate. Areas around the top and base of the ladder must be cleared of tripping hazards. Ladders will not be placed against moving objects. Broken or damaged ladders will not be used. Ladders to be repaired must be tagged out and taken out of service. Step off distance from ladders must not exceed one foot.

#### **4.1.3.10 Straight and Extension Ladders**

Straight and extension ladders must be placed using a 4:1 ratio (for every 4 feet in height from the ground to the point of contact on the supporting surface, the ladder base must be placed 1 foot away from the supporting surface). Ladders must extend at least 3 feet beyond the supporting object. The ladder must have non-skid safety feet and be secured. When the extension ladder is raised to the desired height, the safety dogs or latches must be engaged and the extension rope secured to a rung on the base section of the ladder. Extension ladders must overlap a minimum of three rungs.

#### **4.1.3.11 Stepladders**

Stepladders must have all four feet on a level surface. The spreaders must be locked in place. Stepladders will not be used as a straight ladder. Tools or materials will not be placed on steps or the platform. The maximum height for stepladders without a safety platform is 12 feet and with a safety platform is 16 feet. If a ladder is over eight feet in height, it will be tied off.

#### **4.1.3.12 Heavy Machinery**

Personnel operating heavy equipment must be familiar with the proper use of that equipment. The operator must know how to properly inspect the equipment prior to each use and know that equipment's limitations. Personnel will abide by guidelines set forth by the ATG Corporate Health and Safety Plan and by the manufacturer. Back-up alarms must be in place and operable on all heavy machinery. All equipment must be operated at safe speeds. Lights must be used during low visibility conditions. Seat belts must be worn by the operator.

**4.1.3.13 Weather Conditions**

The weather conditions may include possible thundershowers during the anticipated work schedule. If the potential for lightening is present, work will be stopped and personnel will move to a safe sheltered area until weather conditions improve. Any other severe or adverse weather conditions may require work to be stopped and personnel to move to a sheltered area.

**4.1.3.14 Inadequate Lighting**

Work performed on-site must have adequate lighting. If daylight does not provide the adequate 5-foot candle requirement (29 CFR 1910.120) then artificial light must be provided or all work must stop in time for personnel to exit the area during adequate daylight.

**4.1.3.15 Good Housekeeping**

Personnel will be expected to maintain good housekeeping within and around the work site. Materials or equipment that could be potential trip hazards will be moved out of walkways. Uneven walkways will be cleared or have restricted access. Materials will not be stacked in such a way that they may fall on personnel or equipment. Open pits will be roped off and labeled to prevent falls.

**4.1.3.16 Electrical**

Only power sources rated to handle the load required for equipment on-site will be used. Power sources will be required to have ground fault circuit interrupters unless the equipment has built in ground faults. Ground faults will be tested daily prior to using electrical

equipment. Electrical equipment, plugs, and extension cords will be used and stored away from water sources. Electrical equipment that is not properly grounded, damaged, insulated, or have exposed wiring will be taken out of service and marked "Do Not Use". Extension cords with frays, exposed wire, damaged or missing prongs, or not insulated will be taken out of service and marked "Do Not Use". Electrical equipment cords and extension cords can not be taped to cover damaged areas or for any other reasons. Metal or conductive ladders will not be used near energized electrical lines or equipment.

**4.1.3.17 Dust**

Work operations will be designed as to generate little or no dust. Airborne concentrations will be monitored. Personnel will wear the proper PPE in accordance with RWP requirements if dust is generated.

**4.1.3.18 Noise**

Heavy equipment used on-site may generate elevated noise levels and will require hearing protection. Noise levels will be monitored and noise-suppression will be used when possible. If noise levels reach or exceed 85 dBA, hearing protection will be required and the area should be posted "Hearing Protection Required". The hearing protection provided must be able to lower noise levels below 85 dBA when worn.

**4.1.3.19 Motor Vehicles**

ATG personnel will abide by all traffic laws on base as well as pedestrian right-of-ways. Speed limits will be adhered to and seat belts will be worn by all passengers in the vehicle. Drivers will have a current drivers license and will not drive under the influence of drugs or alcohol. Special precautions will be taken in the event that road conditions become hazardous.

**4.1.3.20 Hazardous Material Storage**

No more than 10 gallons of flammable/combustible materials will be stored on-site unless these materials are stored in an approved

flammable storage cabinet or tank. Chemicals stored together must be compatible. Containers must be stored in an area that has limited traffic and little chance for containers to be broken, toppled, or spilled. A spill kit will be kept on-site in the unlikely event that a spill were to occur. Appropriate personnel at Fort McClellan will be notified immediately in the event of a spill. Containers should be placed in a designated posted area. The storage area should be diked if possible. The fire department must be aware of where the storage area is located and what it contains. Flammable and/or combustible materials must be stored away from ignition sources. All containers must be properly labeled and an MSDS must be on-site for the material. Gas cylinders must be secured in an upright position with a cap over the valve when not in use.

#### **4.1.3.21 Fire Awareness**

Fire extinguishers will be on-site in a designated area readily accessible to personnel. Combination ABC fire extinguishers will be provided and inspected by a qualified person on a monthly basis or as needed. Personnel will be trained in the proper use of a fire extinguisher. Exits will be clearly marked to the containment tent in the event of a fire. Directional arrows will be placed around the lower portion of the tent to guide personnel to the closest exit. The fire department will be notified immediately in the event of a fire.

#### **4.1.3.22 First Aid**

A first aid kit will be on-site in a designated area clearly identified by a "First Aid" sign. The first aid kit will be readily accessible to personnel and visitors to the site. A minimum of two personnel trained in first aid/CPR will be present at the site at all times work is being performed.

#### **4.1.4 Respiratory Protection**

Respiratory protection may be required during certain operations. All personnel assigned respiratory protection must be medically qualified, trained on the use of the equipment, and when appropriate, have qualitative fit testing. All personnel in respirators must be clean shaven. All respirators must be cleaned and checked daily. The areas where respirators may be required are at initial excavation of affected material, at the monitoring

system, and during material load-out into the waste packages. Engineering practices shall be employed to reduce airborne contamination. Respiratory protection will be mandated for area workers when the concentration of airborne contamination is found to  $\geq 50\%$  of the DAC, i.e.,  $5 \times 10^{-9} \mu\text{Ci/ml}$ .

#### 4.1.5 Personnel Dose

The potential whole body dose rates from the in the highest response areas of the site (within the mound) is equivalent to 2.5 millirem per hour as measured with an NaI detector over an integrated count during hole-logging. The indicated conversion is 500,000 cpm = 1 mR/hr for Co-60. A conservative distance to be maintained by the design of the operation is 3'. Given that the distance of source to detector was originally less than 1', the probable highest dose expectation is in the range of 0.3 mR/hr. Therefore, as a conservative estimate of the personnel dose for the job, an individual exposed to this level of radiation for 10 hours per day for 20 days would receive a dose of  $(0.3 \times 10 \times 20)$  or 60 millirem. This is much lower than 10% of the annual occupational exposure limits for radiation exposure, 5 Rem. *JOEL - HELP* Therefore external dosimetry is not required by regulation. However, as a conservative measure, ATG will require dosimetry for all project personnel.

#### 4.1.6 Radiation Work Permit

The Radiation Work Permit (RWP) for work at the Fort McClellan Site will state the personal protective clothing that is to be required to be worn while working in specific project activities. The proposed RWP for this work is included in this plan.

#### 4.1.7 ALARA (As Low As Reasonably Achievable)

It is the intent of all radiological work practices that the efforts performed will be done in such a manner as to subject the individual to the lowest possible dose. Practices that will ensure this are compliance to the project Decommissioning Plan, Health and Safety Plan, and Quality Assurance Plan. Also, compliance to procedural practices detailed in ATG Field Procedure, AD-004, 'Administrative/Regulatory/ALARA Compliance - Policy and Procedure' and in procedure AROP No. 106, 'ALARA Guidelines' as found in **Appendix 8 ??** and ATG Field Procedures. All radiological work activities will be performed under radiation work permits. Morning 'tailgate meetings will be held to discuss safety issues and brief all personnel

on the daily scheduled work activities and the performance of these tasks. These tailgate meetings will be documented. All equipment will be tested before being used in the field. All individuals involved in the performance of work task have 'stop work authority'. If for any reason a job is not being performed safely or correctly the job may be stopped and management notified until the situation may be remedied.

## **4.2 Personnel Monitoring**

Occupational exposure will be continually monitored for all personnel on this ATG project. Personnel monitoring for this project will be supplied by Allied Technology Group using the following procedure.

### **4.2.1 Occupational Exposure Guides**

Allied Technology Group Administrative Control Levels per calendar year;

4.2.1.1	Whole Body	1.0 Rem
4.2.1.2	Extremities	5.0 Rem
4.2.1.3	Skin	5.0 Rem

The ATG Corporate Health Physicist shall approve any authorization for exposure above the annual control levels. This approval will only be given if the dose is necessary and shown to maintain collective dose on the project ALARA.

### **4.2.2 Site Registration Form**

All personnel assigned to work on the project must complete a Site Registration Form, ATG Form 109, prior to starting work. Completed Site Registration Forms will be retained with the personnel exposure files.

### **4.2.3 Occupational Radiation Exposure History**

Before an individual will be permitted to work in a controlled area, a U.S. Nuclear Regulatory Commission Form 4 must be completed and reviewed by the Project Manager or Radiation Protection Supervisor. Exposure results shall be listed on the NRC Form 4.

An Occupational Radiation Exposure History Letter, (ATGF Form 047) will be completed for all personnel assigned to the job. Copies of this letter are

sent to the individual and the Allied Technology Group office in Oak Ridge, TN., within 30 days of obtaining the monitoring results.

#### **4.2.4 Thermoluminescent Dosimetry**

TLDs shall be the permanent record of an individual's occupational radiation exposure. The TLDs used by Allied Technology Group are supplied and evaluated by a NVLAP approved vendor. All personnel assigned to the project will be issued a TLD for the job or on a monthly basis as the work requires.

The individual's name, social security number, issue date, and a date of return are to be recorded on the TLD Issue Log, (ATG Form 111a). In the event of a lost TLD, immediate notification to the Project Manager or Radiation Protection Supervisor is required. A Lost TLD Report (ATG Form 111), will be completed and filed in the individual's exposure file. TLD results will be documented.

The NRC Form 4 will be updated when the TLD results are received and will be maintained in the individual's exposure file.

#### **4.2.5 Bioassays**

Entry bioassay samples will be collected to provide a baseline, and exit bioassay samples will be submitted at project completion. The samples (urine) will be analyzed per third party gamma spectroscopy to determine the extent of uptake and to calculate the attributing dose, if any, as warranted.

#### **4.2.6 Radiation Work Permits**

All personnel working at the Fort McClellan project must be assigned to a specific Radiation Work Permit, (ATGF-002 - Previously ATG Form 113), applicable to the job being performed. A Radiation Work Permit Sign In Sheet (ATGF-023) will be attached to each Radiation Work Permit if deemed necessary by the Project Manager or designee. All personnel assigned to a job, requiring a Radiation Work Permit, shall sign the RWP Sign In Sheet.

#### **4.2.7 Bloodborne Pathogens**

The purpose of this notice is to establish requirements with the intent to protect those employees who have a significant potential of exposure to Bloodborne Pathogens which may cause such disease's as Human

Immunodeficiency Virus and Hepatitis-B Virus.

Key Definitions:

**Bloodborne Pathogens:** Microorganisms present in human blood that can cause disease in humans include, but are not limited to, Hepatitis-B virus (HBV) and Human Immunodeficiency virus (HIV).

**Exposure Incidents:** A specific eye, mouth, other mucous membrane, non-intact skin or penetrable contact with blood or other potentially infectious materials that results from performing required tasks.

**Occupational Exposure:** A reasonably anticipated skin, eye, mucous membrane or other penetrable contact with blood or other potentially infectious material that might result from performing required tasks.

**Penetrable Contact:** A Piercing of mucous membranes or the skin barrier by means of a needle stick, human bite, cut and/or abrasion.

**Potentially Infectious Materials:** Materials that might be present in a first-aid emergency, including blood, vomit, urine or other body fluids.

#### 4.2.8 ATG Field Project Potential

ATG has conducted a thorough evaluation of the processes and tasks which are performed in relation to Contractual Field Projects and has determined the potential for employee exposure to be minimal. However, because of the potential for accidents and injuries resulting in the possible contact of body fluids, ATG shall require additional training. Although the likelihood of accidental exposure is minimal, the following information shall be discussed with assigned site personnel prior to work activity.

#### 4.2.9 The following is the ATG policy for field operations.

**Training:** All ATG personnel who receive Basic First-Aid training and are designated as Emergency Medical Response personnel shall receive additional training in Occupational Bloodborne Pathogen awareness.

**Vaccinations:** All ATG personnel trained in Basic First-Aid shall be offered the Hepatitis-B series of inoculations at no cost to the individual. This shall be offered on a voluntary basis and because the risk is minimal and First-Aid

treatment of others is voluntary, no statement of refusal of the vaccine shall be required. All ATG personnel who are designated and certified as Emergency Medical Technicians shall be required to receive the Hepatitis-B inoculations. This shall be at no cost to the individual.

**Handling of Sharps:** All ATG personnel who handle materials containing sharps shall be required to wear puncture resistant gloves. Any injuries received while working with such materials shall be reported to their immediate supervisor. In addition, personnel exposed to blood or other body fluids while aiding an injured individual, no matter how minor, shall report to their immediate supervisor. The supervisor shall then promptly log and report the incident to the Project Manager.

**Protective Equipment:** Protective Equipment such as gloves, masks and respiratory barriers are provided in each first-aid kit. All personnel responding to a first-aid situation in which there is a potential for exposure to blood or other body fluids are expected to use these devices for protection of both themselves and the personnel they are aiding.

#### 4.3 Training

Individuals assigned to this project will be trained and qualified radiation workers. Training records will be supplied as part of the Project Quality Assurance Plan. Training specific to the project will be performed prior to the start of work by the Project Radiation Protection Supervisor and recorded on the Training Record, (ATGF Form 027 - Previous ATG Form 102). Requirements of the Project Decommissioning Plan, Project Quality Assurance Plan and the Project Health and Safety Plan will be covered in the on-site training.

#### 4.4 Decontamination

Contamination control barriers will be established and personal protective equipment will be required to minimize the potential for areas or personnel to become contaminated. In the event that personnel contamination is detected, the following procedure will be used to remove or contain the contamination.

##### 4.4.1 Explanation

This section is a follow-up to ATG Field Procedure, HP-OP-0 1 3, Personnel Decontamination which describes how a radiation worker detects personal contamination. Once detected, this procedure will explain where and how to

decontaminate to acceptable levels. It further provides for ongoing documentation to assure adequate review and improvement of existing procedures.

#### 4.4.2 Decontamination Methods

##### 4.4.2.1 Personnel Decontamination

When contamination is found on the worker, the worker shall notify a Health Physics Technician and the Project Manager immediately that he/she has become contaminated. The worker will indicate where he/she believes the contamination occurred, and the route taken to where the surface contamination was detected. This information will assist the Health Physics Technician in determining which areas to survey to avoid the contamination of other personnel. After notifying the Health Physics Technician, the individual who is contaminated shall, if possible, isolate the contaminated item or items by the use of clean plastic bags and remain in the personnel survey area. Any method of decontamination used will require monitoring and documentation of the results for each step in the procedure. All liquids used for decontamination purposes, will be considered contaminated and handled as radioactive waste. A spray solution of RadiacWash or equivalent mild detergent solution should be used as the primary agent to remove skin contamination. RadiacWash foam will be sprayed on the contaminated area, allowed to soak for a few minutes, then wiped clean. Radiation surveys will be performed between each wash.

**NOTE: UNDER NO CIRCUMSTANCES WILL THE SKIN BE ABRADED WITHOUT DIRECT MEDICAL SURVEILLANCE. NOTIFY THE ATG RADIATION SAFETY OFFICER AND THE CORPORATE RADIATION SAFETY OFFICER SHOULD THIS BE RECOMMENDED.**

Additional washing may be required if the affected area contamination levels are not reduced to below acceptable limits. If needed, lava soap, a soft brush and small amounts of water can be used with light pressure to produce a heavy lather. Only wash 3 times for about 2 minutes each. Rinse and monitor. Use care not to scratch or erode the skin. Apply lanolin or hand cream to prevent

chapping. Continued washing will abrade the skin. Any additional decontamination techniques shall be approved by the Radiation Safety Officer on a case by case basis.

#### **4.4.2.2 Clothing Decontamination**

When contamination is found on clothing, the worker shall immediately notify a Health Physics Technician and inform him/her of the situation, including where the worker believes the contamination occurred and the route taken to where the contamination was detected. This information will assist the Health Physics Technician in determining which areas to survey to avoid the contamination of other personnel. The contaminated clothing shall be removed, taking special care not to further contaminate additional clothing or personnel. The item(s) shall be surveyed to determine the degree of contamination. Depending on the source of contamination, decontamination methods such as using tape to adhere the contamination to or scraping a shoe with a knife may be used. If the contaminated item cannot be easily decontaminated without using soap and water methods, the item shall be disposed of as radioactive waste.

#### **4.4.2.3 Documentation**

In order to fully assess the degree of contamination, the skin dose to personnel and to critique the incidents to improve future procedures, documentation is necessary. Documentation of the event should start and continue from the initial detection of contamination to the final release. Personnel contamination that requires decontamination will be classified in two categories, skin and clothing. A separate form shall be used for each, along with a Contamination Report Index, (ATG Form 116) to chronologically categorize all personnel contamination.

A Personnel Contamination Report, (ATG Form 117), and a Clothing Contamination Report, (ATG Form 118) shall be completed by the individual performing the decontamination and submitted to the Project Manager for evaluation and filing. The Contamination Report Index shall be maintained by the Project Manager. The contamination reports shall be maintained in the individual's exposure file.

## **5.0 SAFETY RULES**

### **5.1 Purpose**

The purpose of the safety rules section is to provide a code of conduct which will allow for a smooth operation of the job site with as little time loss as possible due to violation of Safety Rules and Regulations. The safety rules apply to both the workers assigned to the project and visitors.

### **5.2 General Requirements**

Compliance with the Safety Rules is considered a condition of employment, and as such, disciplinary action may be taken for violations as necessary. Safety rule violation and disciplinary action will be determined by ATG management. All workers have the responsibility to report safety violations to their supervisor.

### **5.3 Safety Rules**

The following safety rules have been compiled and reviewed by ATG management and will be accepted by all employees prior to employment. A copy of the Safety Rules and Regulations will be available at the job site and will be made available to any employee requesting a personal copy.

- 5.3.1 Employees must be in working clothes and ready for work at the designated starting time.
- 5.3.2 Employees may take lunch breaks only during designated times and must eat in the assigned area while on the job site. There will be no smoking, eating or drinking while handling any hazardous materials or within the work site.
- 5.3.3 Personnel will not quit work before the time designated for the conclusion of the work shift. There will be sufficient time allocated for removal of protective clothing or work clothes.
- 5.3.4 Employees must report to work each regularly scheduled work day. One hour call in time will be allowed to notify your superior of an absence. Excessive absentees will not be tolerated.
- 5.3.5 No employee will report to work under the influence of alcohol or drugs. Likewise, it is forbidden to carry or use alcohol or drugs on the job site or

company property.

- 5.3.6 Personnel must comply with both verbal and written instructions from the project supervisor.
- 5.3.7 All personal work injuries must be reported to the Project Supervisor or Health and Safety Manager (or designated alternate).
- 5.3.8 All unsafe conditions, or unsafe acts must be reported to the Project Radiological Controls Supervisor or the Health and Safety Manager (or designated alternate).
- 5.3.9 Any required personal protective devices and clothing must be properly worn by all personnel while on the job site.
- 5.3.10 Radiological monitoring equipment such as air samplers must not be tampered with or altered.
- 5.3.11 Good housekeeping by all personnel is considered mandatory.
- 5.3.12 Employees will not engage in malicious horse play, practical jokes or mischief while on the job site.
- 5.3.13 Fighting or attempting bodily injury to another employee while on the job site is not permitted.
- 5.3.14 Carrying a concealed weapon on the job site is expressly forbidden.
- 5.3.15 Falsifying company records or falsifying data will not be tolerated and will result in disciplinary action.
- 5.3.16 Equipment marked "Out Of Service" or "Do Not Use" shall not be used.

#### **5.4 Disciplinary Actions**

The following steps will be administered in a fair and nondiscriminatory manner:

- 5.4.1 All Disciplinary actions will be documented and maintained in the employee's personnel file.

- 5.4.2 Supervisory personnel are responsible for giving appropriate and specific safety instructions and are responsible for assuring that the instructions are clearly understood.
- 5.4.3 A violation of the safety rules will be promptly corrected. The violations will be documented by the supervisor and the employee will be given a copy of the written violation report.
- 5.4.4 Individual safety rule violations will be assessed on their merit with appropriate consideration given to the seriousness of the violation, the effect on the other employees, the employee's prior work record and previous safety violations. Any disciplinary action to be taken will be approved by the Project Director.
- 5.4.5 There may be some situations where the safety rule violation is so serious that modification or total disregard of the steps may be warranted. In these situations the employee may be suspended or terminated. It is suggested that in cases of this type, the employee be suspended pending the outcome of a full investigation of the incident and the employee's previous safety history. When this method is followed, the results of the investigation should determine the severity of the discipline to be administered.

## 6.0 STOP WORK CONDITIONS

During the performance of this contract, certain conditions may be encountered that will require specific work tasks to be immediately halted. Conditions such as; discovery of explosive materials, excessive contamination levels in an uncontrolled environment, high wind speeds, extreme high or low temperatures, severe storms or flash floods. Depending on the specific work task that is being performed at the time on such an adverse condition, work may be halted until a safe condition exists to restart the task.

If time permits, the Project Manager or designated alternate will communicate with the Government representative to determine the appropriate action to be taken at a given time. The following guidelines will be used to aid in determining stop work conditions.

- 6.1 Discovery of any unexploded ordinance is a direct threat to personnel at the site and these materials must be avoided by all personnel.
- 6.2 Excessive Contamination Levels in non-controlled areas means that contamination levels in excess of 1000 dpm/100 cm<sup>2</sup> have been detected in non contamination controlled areas. All work tasks will immediately be halted and a concerted effort

will be made to clean the affected area. The Radiation Safety Officer will be immediately notified of such conditions and work will not restart without his approval. This activity will be documented in the Daily work log and by survey documentation.

- 6.3 The guidance for the determination of working conditions for heat stress will be determined per the guidance given in the American Conference of Governmental and Industrial Hygienists (ACGIH), "Threshold limit values for Chemical Substances and Physical Agents and Biological Exposure Indices" under the Heat Stress Section. Working conditions will be explained to the workers each day by the Health and Safety Manager or designated alternate during the safety meetings and documented in the Final Report.

Extreme High Temperatures means in excess of 105 degrees. Heat stress to the workers may occur. When high temperatures are occurring, specific work tasks that are hampered will be halted. Work tasks that require physical work or work tasks that protective clothing is required may be affected. The Project Manager or designated alternate will evaluate the conditions and determine if work tasks will be halted.

- 6.4 Extreme Low Temperatures means less than 10 degrees. When low temperatures are occurring, specific work tasks that are hampered will be halted. The Project Manager or designated alternate will evaluate the conditions and determine if work tasks will be halted

- 6.5 High Wind Speed means a steady wind speed in excess of 25 mph or wind gusts of 40 mph that seem to be ongoing throughout the day. Unsealed sources of radioactive material may be spread to uncontrolled areas if wind speeds are excessive. During high wind speeds the soil packaging activity will be performed inside a sheltered area but may still be affected by steady winds or wind gusts. If excessive winds are encountered, the soil packaging activity will cease and the soil containers will be sealed and the remaining soil covered with plastic. Other work activities may be halted at the discretion of the Site Coordinator..

- 6.6 Severe Storms or Flash Floods could cause all work tasks to be halted. Water damage to the controlled areas and wind barriers will cause all work tasks to be halted until the areas can be repaired. Should these type of conditions occur, the equipment and areas will be secured and evacuated. Prior to the restart of work, the Site Coordinator will receive approval from the contract administrator or the Radiation Safety Officer.

- 6.7 Natural Disasters will be handled on a case by case basis. Depending on the type and magnitude of the disaster, work operations will be determined by the Site Coordinator.
- 6.8 Discovery of unidentified underground utilities could cause all work tasks to be halted until the utilities are identified and disconnected by the proper authorities.
- 6.9 Unauthorized person(s) entering the exclusion zone would constitute work to be stopped and the proper authorities notified. The incident would be properly documented.

## 7.0 ACCIDENT REPORTING

**NOTE: All accidents, injuries, fires, or any emergency incidents will be reported following the guidance of the Section 3.0 of the EMERGENCY PLAN.**

### 7.1 Insurance

ATG's Worker Compensation Carrier has the responsibility for the following:

- 7.1.1 Making sure that every claimant is entitled to a fair investigation of his/her claim and a prompt decision as to its merit.
- 7.1.2 Determining how much a particular liability case is worth and negotiating a settlement within that range.
- 7.1.3 Making sure that cases of no liability, tenuous liability or those tainted by fraud are vigorously resisted.
- 7.1.4 Consulting with the company's Controller on all claims requiring settlement in excess of \$5,000.00.
- 7.1.5 Consulting with the company's President or Vice President on all claims requiring settlement in excess of \$10,000.00.
- 7.1.6 Maintaining the risk management reporting system, the risk detail report and forwarding monthly report updates to the company's President or Vice President.

### 7.2 Accident or Injury Reporting Requirements

All injuries shall be promptly reported to the ATG Project Manager, ATG Health and Safety Manager or designated alternates, and the Fort McClellan Safety Office.

To make sure that each incident is properly and appropriately reported and recorded, the Foreman's Report of Injury or Illness (ATG Form 133) is required. The Foreman's Report of Injury or Illness will provide all of the information to generate the employees first report of an injury. It can also be used as the company's medical authorization. The Foreman's Report of Injury or Illness must be completed in detail for every accident, injury or illness which occurs to an ATG employee, visitor or subcontractor either in connection with or on company property or on a contracted job site. Every effort should be made to complete this form as quickly as possible following notification of the incident. The injured worker's foreman is responsible for completing this form. Once completed, the form should be reviewed and signed by the Health and Safety Manager or designated alternate and a copy forwarded to the insurance carrier. Copies shall be provided to U.S. Army Industrial Operations Command.

Accidents resulting in any fatality, lost-time injury or illness, hospitalization of 3 or more personnel, or property damage to government or contractor property (which occurred during performance of the contract) equal to or exceeding \$2000.00 must be telephonically reported to USA, IOC as soon as possible, but not later than 2 hours after occurrence and reported in writing within 5 days of occurrence on DA Form 285 (encl). All other accidents/incidents must be reported by telephone to USA, IOC, (309) 782-0880, within 8 hours of occurrence.

### **7.3 Employee's First Report of Injury**

Each state within the United States has either developed its own Employer's First Report of Injury Form or has indicated a willingness to accept a suitable substitute. Generally where a state does not have its own form, the substitute is that form used by the employer's Workman's Compensation Carrier. Every state requires some type of injury notification.

The Project Director or his/her designee shall report immediately by telephone, or in writing, to the nearest District Office of the Division of Occupational Safety and Health any serious injury, accident or death of an employee. "Immediately" is defined for this purpose to mean as soon as practical but no longer than twenty four hours after the employer knows of or should have known of the death, illness or serious injury. The Project Director will notify the nearest office of the Division of Occupational Safety and Health whenever a State, County, or Local Fire or Police Agency is called to an accident involving an employee that has suffered a serious

injury, illness or death.

#### **7.4 OSHA Forms**

The OSHA Form 200 Log and Summary of Occupational Injury and Illness along with the OSHA Form 101, Supplementary Record, will be completed and maintained at the ATG Corporate office in Fremont, California.

The corporate office has the responsibility to record and report OSHA reportable incidents. All forms are available on request.

### **8.0 HAZARD COMMUNICATION PROGRAM**

#### **8.1 Purpose**

The purpose of this written Hazard Communication Program is to comply with the requirements of the Code of Federal Regulations, Title 29, Part 1910.1200, "Hazard Communication". This program is site specific.

#### **8.2 Policy**

ATG as an employer engaged in a business within the Standard Industrial Classification, Codes 20 through 39, where chemicals or hazardous materials are either used or are produced for use. This program will assure that the hazards of all chemicals found in the work place will be evaluated and that information concerning their hazard will be transmitted to all affected employees.

The known hazard that will be handled on this project will be radioactive material and potential biological hazards. The hazards have been evaluated in this Project Health and Safety Plan. Communication to the employees will be handled in the project training and verified through the Project Quality Assurance Plan. Identification of the radiological hazard is required by posting radiological controlled areas and labeling containers or items that contain radioactive material in accordance with 10 CFR 20. All potential biological hazards will be properly labeled and the work site will have the proper postings.

Any currently unknown hazards will be handled in the same manner when they are encountered. The Project Manager or designated alternate will be responsible for conducting the evaluation, communication and identification.

Material Safety Data Sheets (MSDS) will be provided for all materials brought onto

the site. All MSDS's will be placed alphabetically in a labeled notebook and in a designated highly visible area that is readily accessible for personnel and visitors. A copy of all MSDS's for the materials on-site will be provided to the fire department. The fire department will also be notified of the quantity of the material and the storage location. All personnel will be briefed on the materials on-site, the location of the MSDS's, and the proper way to use the MSDS's.

## **9.0 PROJECT ROLES AND RESPONSIBILITIES**

### **ATG Project Manager**

The Project Director or his/her designee is responsible for the overall project. He/she is to assure the project meets the objectives and contracted commitments. He/she has the direct management responsibility and authority for cost, schedule, quality and technical performances of all activities in support of the project. He/she is ultimately responsible for the implementation of all quality related activities. Other responsibilities include: selecting project staff and assigning duties, reporting to the Project project budgets and schedules, and identifying and resolving project specific problems. The Project Manager will assure the tasks are completed in a professional, efficient, and safe manner.

### **ATG Project Supervisor**

The ATG Project Supervisor or his designated alternate will have overall responsibility for ATG's on-site conduct of the project and will report to the Project Manager for oversight and management control. He/she will be the primary point of contact. He/she is responsible for implementing and monitoring compliance with the operations plan and implementing corrective actions. The Project Supervisor, in concurrence with the ATG Health and Safety Manager and Base safety representatives will be authorized to make revisions to the Health and Safety Plan. Notifications of these revisions will be made to the US IOC, and the Fort McClellan Radiation Safety Office.

### **ATG Health and Safety Manager**

The ATG Health and Safety Manager or his/her designated alternate is responsible for ensuring project activities are conducted according to corporate and site specific health and safety policies. He/she will be the primary on-site contact for health and safety issues encountered during the project. The Health and Safety Manager will ensure that project personnel are properly trained and that documentation of their training is available on-site. He/she will ensure that project personnel are medically qualified for the work specified and respirator fit tested. He/she will ensure that the proper PPE is being worn and used correctly. He/she will control access to the site by visitors and unauthorized personnel. He/she will

conduct daily safety meetings and perform safety inspections. The Health and Safety Manager, in concurrence with the ATG Project Manager and Base safety representatives will be authorized to make revisions to the Health and Safety Plan. The responsibilities of the Health and Safety Manager may be delegated as a parallel function of the Project Manger or the Project Supervisor for this limited scope project.

### **ATG Field Personnel**

ATG Field Personnel will take all reasonable precautions to prevent injury to themselves and to their fellow workers by remaining alert to potential harmful situations. All tasks must be performed in accordance with the Project Work Plan and the Health and Safety Plan. Any unsafe conditions must be reported immediately to the Project Manager and/or Health and Safety Manager (or designated alternates. Personnel must report any medical conditions that may be affected by the work environment. All injuries must be reported - no matter how minor. The Field Personnel must read and comply with all postings and rules at the work site. Spilling and splashing of materials must be kept to a minimum. Good housekeeping must be maintained within and around the work area.

## **10.0 EMERGENCY PLAN**

The objective of emergency response actions is to minimize adverse health risks to site workers, the environment, and local community. The Project Health and Safety Manager or designated alternate will be the site emergency coordinator.

The following is a course of action for any accidents or emergencies that may occur during this project and the immediate actions to be pursued. In any situation outside the scope of the work identified in this work plan, the actions taken should be to stabilize the area, notify appropriate personnel, contain the area and prevent unauthorized personnel from entering the area (thus minimizing their exposure and contact), surveying the area for all hazards, and then formulating a plan for recovery from the accident or situation. The following will be performed prior to work on site:

- a. Locate the nearest telephone.
- b. Confirm and post emergency telephone numbers.
- c. Post site map of work areas marked with evacuation routes.
- d. Inventory and check site emergency equipment and supplies.
- e. If a radio is supplied, ensure it is charged and in good working condition.

Work is expected to be performed by ATG personnel over weekend periods and during installation non-duty hours. Special arrangements will be made with the appropriate emergency service organizations.

### **10.1 Evacuations**

In the event of an emergency that requires evacuation of the site, verbal instructions will be given by the Health and Safety Manager or designated alternate. During an emergency evacuation, personnel will proceed to the assembly point designated on the map unless conditions cause the assembly point to be unstable or harmful. Verbal instructions will be given if evacuation beyond the assembly point is required. Personnel working on-site should not take time to monitor for contamination unless time allows. Contaminated personnel and areas they have been in contact with will be monitored when the conditions are stable and considered safe.

The following conditions would require evacuation:

- Fire
- Chemical Release
- Radiological Release
- Any event that an injury is incurred
- Any other event that would cause the working conditions to be unstable and no longer safe

The Project Health and Safety Manager or designated alternate will account for all personnel, ascertain information about the emergency, and advise further instructions to the on-site personnel.

In the event that an evacuation occurs, the following will be performed prior to reentry:

- a. The conditions resulting in the evacuation have been corrected.
- b. The hazards have been reassessed.
- c. The Work Plan and Health and Safety Plan have been revised accordingly and approved by the Project Health and Safety Manager, Project Manager, or designated alternates, and the appropriate facility personnel.
- d. Site personnel have been informed on changes to the site and work conditions.

- e. Site personnel have been informed on precautions to take and any change in PPE requirements.
- f. The Project Health & Safety Manager or designated alternate has given the approval for reentry.

## **10.2 Medical Emergencies**

If a situation occurs that results in the injury of personnel or visitors, the following actions shall be taken:

- 10.2.1 Stop all work activities. Ensure the area is in a safe condition.
- 10.2.2 Qualified personnel will provide first aid to the injured person.
- 10.2.3 In the event the injury is severe, the Project Health and Safety Manager or designated alternate will act as the emergency point of contact. Ensure the emergency personnel are aware that contamination may be present.
- 10.2.4 For any incident, accident, or injury, notify the Base Security Post and the ATG Project Manager or designated alternate.
- 10.2.5 If the injuries and time allow, the injured person will be surveyed for contamination and decontaminated if necessary.
- 10.2.6 If a hazardous material gets on the person's skin or eyes, the area will be flushed immediately with clean water until medical personnel arrive.
- 10.2.7 If a person succumbs to heat stress, the following should be used as a guide:
  - a. Heat cramps: Caused by heavy sweating and inadequate water and electrolyte replacement.  
  
Symptoms: muscle spasms; pain in the hands, feet, and abdomen.  
  
Treatment: drink Gatorade to replace fluids and electrolytes.
  - b. Heat Exhaustion: Caused by sustained exertion in a heated environment. Lack of acclimatization and failure to properly rehydrate may contribute.

Symptoms: clammy skin; heavy sweating; dizziness; nausea; and fainting.

Treatment: Promptly remove individual to a cooler environment and give water or Gatorade to replace fluids and electrolytes. If medical assistance is needed, contact emergency personnel immediately.

- c. Heat stroke: the most serious form of heat stress occurs when temperature regulation fails and the body temperature rises to critical levels.

Symptoms: Red, hot, and dry skin; lack of, or reduced perspiration; nausea; dizziness or confusion; strong rapid pulse; and coma.

Treatment: Immediately summon emergency medical services. While waiting for emergency services to arrive, and if facilities are available, cool person by immersion in cold water or by wrapping in a wet sheet with vigorous fanning with cool dry air. Treat for shock.

- d. High concentrations will be identified by the Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs) as referenced in the Reference List.

### 10.3 Radiological Incident

A radiation incident may be defined as an unforeseen occurrence, either actual or suspected, involving exposure or radiation. An accident is considered to occur over a short period of time, from seconds up to several days. Chronic occupational or other long-term exposure is not considered accidental.

There are two ways in which humans can be exposed to ionizing radiation:

1. External. The source of ionizing radiation may be outside of the body so that the radiation strikes the individual and is absorbed. Radiation from x-ray generators, particle accelerators, sealed sources of radionuclides, and reactors are examples. The radiation may be beta, gamma, or neutron. Alpha emitters present no significant external hazard.

2. Internal. The source of ionizing radiation may gain entrance into the human body by inhalation, ingestion, injection, or absorption through intact or abraded skin. Radionuclides may also be formed within the body following exposure to an external source of neutrons. All persons who are known or suspected to have been internally exposed to radioactive material will be reported to the Fort McClellan Radiation Protection Office.

### SPECIFIC GUIDELINES

In the event of an emergency, the Project Health and Safety Manager or designated alternate will assume control of the situation and direct activities until relieved by proper authority. The exact actions and sequence of actions to be taken will be determined by the nature of the emergency. The following actions are typical responses to emergency situations, however, the sequence of these actions are highly variable.

- 10.3.1 Stop all work activities
- 10.3.2 Leave the area in a safe condition
- 10.3.3 Limit the radiation exposure and the spread of radiation contamination, if undue hazard to personnel does not result. For example:
  - a. Return sources to shield containers
  - b. Place absorbent material on spills
  - c. Turn off ventilation and equipment
  - d. Extinguish flames, heaters, etc.
  - e. Restrict access to the area
- 10.3.4 Perform radiological surveys (airborne, contamination, and radiation) to determine the nature and extent of the release and spread of contamination.
- 10.3.5 Contain the area with herculite or an equivalent material to prevent the continued spread of radioactive material and/or hazardous material to the environment.
- 10.3.6 Evacuate and survey all personnel to a identified safe area.

**NOTE: In the event of any injury, this will take precedence to evacuate and place the injured individual in a safe condition. Immediate medical**

**attention will be obtained for any injuries occurring during this operation. All injuries will result in immediate work stoppage and evaluation of the conditions prior to recommencing activities under the direction of the Project Manager or designated alternate.**

- 10.3.7 Radioactively contaminated personnel will receive all necessary medical care and treatment at the earliest practical time.
- 10.3.8 Radiation and radioactive contamination will not deter medical personnel in efforts to save life or limb, although slightly different techniques must be employed, e.g. rotating medical personnel to minimize exposure to any one individual, keep individual exposures As Low As Reasonably Achievable (ALARA), etc.
- 10.3.9 Radioactively contaminated personnel will be decontaminated at the earliest opportunity consistent with their medical needs.
- 10.3.10 Every effort will be made to minimize radiation exposure and the spread of contamination during medical treatment.
- 10.3.11 The ATG Project Manager or designated alternate will advise the Site RPO of the extent of contamination and exposure of the individual.
- 10.3.12 At the earliest possible time consistent with the patient's medical needs, the attending physician will allow decontamination to begin. Decontamination will be provided under the guidance of ATG Radiation Protection personnel.
- 10.3.13 All contaminated clothing, equipment, and waste material will be retained by ATG Radiation Protection personnel.
- 10.3.14 Contaminated valuables will be retained by ATG Radiation Protection personnel who will account for them, and will decontaminate them as soon as the situation permits so that they may be returned or disposed of properly. Valuables and personal property will not be disposed of as contaminated waste without written consent of the owner.
- 10.3.15 Formulate a recovery plan, obtain approval as required, and commence recovery operations.

#### **10.4 Responsibilities**

#### 10.4.1 Personnel

All personnel are responsible for the following:

Become thoroughly familiar with the contents of this regulation prior to using radioactive material.

Take adequate precautionary measures to protect all personnel from unnecessary exposure to radiation.

Seek advice and assistance from ATG Radiation Protection personnel concerning the safety of an operation.

Prescribe rules, procedures, or protocols for the use of radioactive materials under his control to ensure proper and safe use. These will be made available to any radiation worker in the area and will be furnished for review and comment by Allied Technology Group.

Ensure that all rules, procedures, and practices of radiation safety are rigorously followed in the work area.

Report actual or potential emergency situations to the Project Health and Safety Manager or designated alternate.

Promptly contact ATG Radiation Protection personnel. Exposed individual(s) should cooperate in any and all attempts to evaluate his/her radiation exposure.

If working with radioactive material, maintain a current inventory of the quantity of radioactive material on hand to be readily available to the RPO upon request. The inventory will include the radionuclide(s), current activity, and form.

Evacuating the area immediately.

If qualified, provide first aid to the injured.

#### 10.4.2 Management

All supervisors are responsible for the following:

Anticipate hazardous conditions and prevent them from occurring.

Ensure personnel are trained on emergency situations.

Ensure emergency contact numbers are current.

Ensure evacuation routes are clear.

Alert emergency personnel and act as the point of contact.

Account for all personnel.

The overall health and safety of their workers.

Limiting possible radiation exposure to the general public.

Notification of the Base RPO if a radiation incident should occur involving contractors.

Generation of a written report of all incidents involving radiological hazards including the following as a minimum:

- The type of radiation incident: internal contamination, external contamination, or exposure.
- The number of contaminated individuals and their condition.
- The type of radioactive material.
- Efforts, if any, that have been made to decontaminate the individual at the accident site.

Levels of radiation measured on the patient.

10.4.3 The Fort McClellan Radiation Protection Office will respond to all radiological emergencies and will:

Provide technical advice as necessary.

Arrange for additional resources, e.g. personnel, supplies, and equipment.

Provide assistance as needed.

Provide advice and radiation monitoring.

Provide exposure control and monitoring of staff personnel attending the patient.

Direct decontamination of the personnel at the earliest time consistent with medical needs.

If required, make a prompt investigation of the incident.

Issue specific guidance to minimize exposure of the staff or spread of contamination.

Such guidance will be developed on the scene by the Fort McClellan Radiation Protection Office.

Make appropriate reports to MEDCOM, the Nuclear Regulatory Commission (NRC), and other agencies in accordance with pertinent directives.

#### 10.4.4 Medical Personnel

The medical personnel present at the scene of an accident will:

Evaluate the injury

Apply first aid

Take the person to a designated decontamination area

Employ contamination control measures

Follow recommendations whenever possible since radioactive contamination can necessitate very costly decontamination operations and result in the loss of facilities for many days.

Notify the Fort McClellan Radiation Protection Office.

### 10.5 Safety Signals

Vehicle, tractor, and portable gas-operated horns are used for safety signals as follows:

One Long Blast      **WARNING ALARM** - prepare for emergency response

Two Short Blasts      **ACTIVATION ALARM** - initiate emergency response activities as directed by Emergency Coordinator

Three Short Blasts      **ALL CLEAR** - return to normal activities.

### **10.6 Emergency Information**

Emergencies may include fires, fire hazards, accidents requiring first aid, or other incidents requiring emergency procedures. ATG and its subcontractors will, at all times, minimize potential emergencies. The following section lists emergency phone numbers which should be posted in all work areas:

#### **EMERGENCY PHONE NUMBERS**

Ambulance (Fire Department)	(256) 848-2315
Hospital (Emergency Room)	(256) 235-8900
Fire Department	(256) 820-1117
Security	(256) 848-5159 or 3560
Center for Disease Control (CDC)	(404) 452-4100
RCRA Hotline	(800) 424-9346
Poison Control Center	(619) 543-6000
National Response Center	(800) 424-8802

#### **DIRECTIONS TO HOSPITAL**

The nearest hospital is Stringfellow Memorial of Anniston which is 5 miles from the Pelham Range project site on 301 East 18th Street.

**10.7 Key ATG Personnel**

<u>POSITION</u>	<u>NAME</u>	<u>PHONE</u>	<u>PAGER</u>
Project Manager	Lee Young	(800) 348-5389	(888) 352-2010
Project Supervisor	James Bolling	(800) 348-5389	(888) 360-1712
Corp. Health Physicist	Joel Cehn	(800) 227-2840	

**10.8 Key Contracting Personnel**

<u>POSITION</u>	<u>NAME</u>	<u>PHONE</u>
US Army IOC Health Physicist	Mike Styvaert	(309) 782-0880
US Army IOC Contract Officer	Robert Matthys	(309) 782-5554

**10.9 Key Facility Personnel**

<u>POSITION</u>	<u>NAME</u>	<u>PHONE</u>
Fort McClellan RPO	John May	(256) 848-5737
Fort McClellan Env Comp.	Lisa Kingsbury	(256) 848-7455

**11.0 SPILL PREVENTION AND CONTROL**

Spill prevention control shall be as follows:

The introduction of excess liquids to the site will be held to a minimum. Dust suppression will be provided by a light spray of potable water only as needed during material excavation.

Equipment decontamination will be accomplished by the use of dry methods, including brushing/scraping, supplemented by HEPA vacuum for entrapment of radioactive particulate. Materials will be decontaminated while positioned over plastic lay-down areas to prevent adjacent ground contamination. The application of general water washdown decontamination will be prohibited. Any waste soil material spilled on the ground will be removed as early as practical, along with a portion of the underlying substrate, and processed along with the balance of the waste stream to inhibit cross-contamination.

Staged suspect and known affected material will be covered when not directly packaged or being handled to prevent the infiltration of rain water and subsequent migration of contaminants in a liquid carrier, and to alternatively prevent wind suspension of dry contaminants. Silt fencing and/or straw barriers will be strategically placed to limit surface water from entering waste monitoring, staging, and the excavation areas, and to prevent the

outward migration of contaminated sediment.

Fuel for equipment will be provided by vendor delivery as needed, and bulk quantities will not be stored on-site. A spill kit equipped with container(s), absorbent booms and pads will be maintained in the event of a fuel or hydraulic leak during the project. Spent absorbent material will be bagged and removed from the site. Any ground surface material insulted by a spill will also be removed.

Any standing water within the excavation which may require removal will be sampled and analyzed on-site prior to pumping and discharge to adjacent grounds.

### **11.1 Spill Response**

If a spill of hazardous material occurs, the following actions will be taken:

Notify the Health & Safety Manager and Project Manager or designated alternates immediately.

Take immediate measures to control and contain the spill within site boundaries.

Keep unnecessary personnel away, isolate the hazardous area, and deny entry.

Stay upwind and keep out of low-lying areas.

Allow no flares, smoking, or flames in the hazard area.

For liquids, keep combustibles away from the spilled material.

Take necessary steps to clean up the spill and all contaminated material.

### **12.0 ACRONYMS**

ACGIH	American Conference of Governmental and Industrial Hygienists
ALARA	As Low As Reasonably Achievable
ATG	Allied Technology Group
BEI	Biological Exposure Indices
CDC	Center for Disease Control

CFR	Code of Federal Regulations
EOD	Explosive Ordnance Disposal
HBV	Hepatitis-B Virus
IOC	Industrial Operations Command
LEL	Lower Explosive Limit
MSDS	Material Safety Data Sheet
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety & Health Association
PPE	Personnel Protective Equipment
RCRA	Resources Conservation and Recovery Act
RPO	Radiation Protection Office(r)
RSO	Radiation Safety Officer
RWP	Radiation Work Permit
TLD	Thermoluminescent Dosimeter
TLV	Threshold Limit Value
UXO	Unexploded Ordnance

### 13.0 REFERENCES

29 CFR 1910, OSHA Standards for General Industry.

29 CFR 1926, OSHA Standards for Construction.

U.S. Nuclear Regulatory Commission Division of Industrial and Medical Safety, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material".

ATG Corporate Health and Safety Manual.

ATG "Decommissioning Plan for the Fort McClellan 'Burial Mound' for the IOC, December 1998.

ATG "Project Quality Assurance Plan for the Fort McClellan 'Burial Mound' for the IOC,

December 1998.

ATG Respiratory Protection Program.

American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices".

ANSI A14 Series - 1992, Safety Standard for Ladders.

ANSI B30 Series, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Stings.

ANSI B56 Series, Safety Standard for Powered industrial Trucks.

ANSI Z41 - 1991, Personnel Protection - Protective Footwear.

ANSI Z49.1 - Safety in Welding and Cutting.

ANSI Z87.1 - 1989, Practice for Occupational and Educational Eye and Face Protection.

ANSI Z89.1 - 1986, Protective Headwear for Industrial Workers.

ANSI Z1 17.1 - 1989. Safety Requirements for Confined Spaces.

NUREG/CR 2082 "Monitoring for Compliance with Decommissioning Termination Survey Criteria".

NUREG/CR5849"Manual for Conducting Radiological Surveys in Support of License Termination".

NUREG/CR5512,"Residual Contamination from Decommissioning".

Industrial Radiation Study No. 27-MH-0987-R2-97, Pelham Range Burial Mound Site Fort McClellan, Alabama 29 August - 15 September 1995 and 14-28 January 1996, U. S. Army Center for Health Promotion and Preventive Medicine.

#### 14.0 FORMS

ATG Form-027	Training Record
ATG Form-047	Occupational Radiation Exposure History Letter
ATG Form-109	Site Registration

ATG Form-112	Radiation Exposure Record
ATG Form-116	Contamination Report Index
ATG Form-117	Personnel Contamination Report
ATG Form-118	Clothing Contamination Report
ATG Form-133	Foreman's Report of Injury or Illness

# FORMS



Allied Tech Group, Inc.  
 47375 Fre. at Blvd.  
 Fremont, California 94538  
 (800) 227-2840

OCCUPATIONAL RADIATION EXPOSURE HISTORY

Exposure Year 199\_

Name: \_\_\_\_\_ Social Security No: \_\_\_\_\_  
 Address: \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

The Occupational Radiation Exposure listed below was received by the above individual while assigned by Allied Technology Group, Inc.

Project/Location Monitored	Monitoring Method TLD/Film Badge	Record/Estimate	NRC License Number(s)

Abbreviations: NC - Not Calculated ND - None Detected NM - Not Monitored SA - See attached

Monitoring Period	Deep-Dose Equivalent		Shallow-Dose Equivalent		LDE	CEDE	CDE	TEDE	TODE
	X or $\gamma$	Neutron	Total DDE	Skin SDE, WB					
From									
To									

THIS REPORT IS FURNISHED TO YOU UNDER THE PROVISIONS OF THE NUCLEAR REGULATORY COMMISSION REGULATION 10 CFR PART 20 TITLED "STANDARDS FOR PROTECTION AGAINST RADIATION". YOU SHOULD PRESERVE THIS REPORT FOR FURTHER REFERENCE. ALL DOSE EQUIVALENT VALUES ARE REPORTED IN MILLIREM.

Radiation Safety Officer: \_\_\_\_\_ Date: \_\_\_\_\_

**SITE REGISTRATION FORM  
ALLIED TECHNOLOGY GROUP, INC.**

**PERSONAL INFORMATION**

Name:		Date:
Social Security:	Date of Birth:	Project Name:
Permanent Address:		
City:	State:	Zip:

**EMPLOYER INFORMATION**

Employer's Name:	
Employer's Address:	
Name of Emergency Contact:	
Address of Emergency Contact:	
Emergency Contact Phone:	
Signature:	

**MEDICAL HISTORY**

List any condition or ailment that may affect your ability to perform your job:

Indicate if you are epileptic or diabetic:

List any allergies you have:

List any medications you are now taking:

Last Tetanus Shot date:	Date of Last Physical:
Signature:	
Date:	

**FINAL PAYCHECK ADDRESS**

Address:	
City:	
Phone:	

FedEx: <input type="checkbox"/>	Check box at left if you want your check Federal Expressed to you. ATG must deduct a <b>\$15.00</b> fee from your final pay for this service. If not checked, paycheck will be sent regular mail.
---------------------------------	---



## PERSONNEL CONTAMINATION REPORT

NAME	DATE
LOCATION WHERE CONTAMINATION OCCURRED:	RWP#
<b>EXTENT OF CONTAMINATION:</b>	
A. INITIAL SURVEY RESULTS:	
B. SURVEY RESULTS AFTER DECONTAMINATION:	
C. RELEASE SURVEY RESULTS:	
<b>SKIN DOSE EVALUATION:</b>	
<p>A. Maximum contamination level conversion from dpm to mrad/hr maximum skin dose rate            _____ dpm (4,000 dpm/mrad/hr) = _____ mrad/hr.</p> <p>B. Maximum skin dose rate Total time skin contaminated            Total maximum skin dose _____ mrad/hr x _____ hr* = _____ mrad**.</p> <p>* If skin contamination cannot be removed, assume a residence time of 48 hours. Contact the Radiation Safety Officer in all cases where skin contamination cannot be reduced below 1000 dpm.</p> <p>** If 75 mrad, contact the Radiation Safety Officer. (75 mrad is equivalent to 75000 cpm on the skin for 4 hours.)</p>	
<b>RADIATION SAFETY OFFICER COMMENTS:</b>	
SIGNATURE (TECHNICIAN)	DATE
SIGNATURE (INDIVIDUAL)	DATE
SIGNATURE (SUPERVISOR)	DATE

## CLOTHING CONTAMINATION REPORT

NAME:		BADGE NO.:
WORK AREA:		
DATE OF OCCURRENCE:	TIME OF OCCURRENCE:	
LOCATION WHERE CONTAMINATION OCCURRED:		
JOB BEING PERFORMED:		
WAS WORK COVERED BY RWP?	<input type="checkbox"/> YES    OR <input type="checkbox"/> NO	IF YES, RWP#
ANTI-C's WORN? <input type="checkbox"/> YES    OR <input type="checkbox"/> NO		
DESCRIBE:		
EXTENT OF CONTAMINATION, INCLUDING APPROXIMATE AREA:		
CAUSE OF CONTAMINATION:		
METHOD OF DECONTAMINATION:		
RADIATION PROTECTION COMMENTS:		
SURVEY SECTION:		
A.    INITIAL SURVEY RESULTS:		
B.    AFTER DECONTAMINATION:		
C.    RELEASE SURVEY RESULTS:		
HEALTH AND SAFETY OFFICER	DATE	
INDIVIDUAL'S SIGNATURE	DATE	

## FOREMAN'S REPORT OF INJURY OR ILLNESS

EMPLOYER'S NAME:				
EMPLOYER'S ADDRESS:				
WORK LOCATION:				
WORK LOCATION ADDRESS:				
EMPLOYEE'S NAME:			DATE OF BIRTH:	
EMPLOYEE'S ADDRESS:				
MARITAL STATUS:	SINGLE	MARRIED	WIDOWED	DIVORCED
IS THIS A WORK RELATED INJURY OR ILLNESS? <input type="checkbox"/> YES OR <input type="checkbox"/> NO				
DATE OF OCCURRENCE:		TIME OF OCCURRENCE:		
ACCIDENT OR ILLNESS DESCRIPTION:				
IS THIS A LOST TIME ACCIDENT OR ILLNESS? <input type="checkbox"/> YES OR <input type="checkbox"/> NO				
IS THIS AN OSHA RECORDABLE ACCIDENT OR ILLNESS? <input type="checkbox"/> YES OR <input type="checkbox"/> NO				
WAS MEDICAL TREATMENT NECESSARY? <input type="checkbox"/> YES OR <input type="checkbox"/> NO				
FOREMAN'S SIGNATURE			DATE	
REVIEWED BY			DATE	

**LIFETIME OCCUPATIONAL EXPOSURE HISTORY**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: \_\_\_\_\_ MINUTES. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB, 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20565, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0005), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

1. NAME (LAST, FIRST, MIDDLE INITIAL)		2. IDENTIFICATION NUMBER		3. ID TYPE		4. SEX		5. DATE OF BIRTH	
6. MONITORING PERIOD		7. LICENSEE NAME		8. LICENSE NUMBER		9. RECORD ESTIMATE		10. ROUTINE PSE	
11. DDE	12. LDE	13. SDE, WB	14. SDE, ME	15. CEDE	16. CDE	17. TEDE	NO RECORD	18. TODDE	
6. MONITORING PERIOD		7. LICENSEE NAME		8. LICENSE NUMBER		9. RECORD ESTIMATE		10. ROUTINE PSE	
11. DDE	12. LDE	13. SDE, WB	14. SDE, ME	15. CEDE	16. CDE	17. TEDE	NO RECORD	18. TODDE	
6. MONITORING PERIOD		7. LICENSEE NAME		8. LICENSE NUMBER		9. RECORD ESTIMATE		10. ROUTINE PSE	
11. DDE	12. LDE	13. SDE, WB	14. SDE, ME	15. CEDE	16. CDE	17. TEDE	NO RECORD	18. TODDE	
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11. DDE	12. LDE	13. SDE, WB	14. SDE, ME	15. CEDE	16. CDE	17. TEDE	NO RECORD	18. TODDE	
6. MONITORING PERIOD		7. LICENSEE NAME		8. LICENSE NUMBER		9. RECORD ESTIMATE		10. ROUTINE PSE	
11. DDE	12. LDE	13. SDE, WB	14. SDE, ME	15. CEDE	16. CDE	17. TEDE	NO RECORD	18. TODDE	
19. SIGNATURE OF MONITORED INDIVIDUAL		20. DATE SIGNED		21. CERTIFYING ORGANIZATION		22. SIGNATURE OF DESIGNEE		23. DATE SIGNED	

**'BURIAL MOUND DECOMMISSIONING PLAN  
FORT McCLELLAN**

**APPENDIX 2**

**PROJECT QUALITY ASSURANCE PLAN**

U.S. Army Fort McClellan  
Fort McClellan, Alabama  
HQ, IOC Project Number USA 98-046

PHASE III

DECOMMISSIONING OF THE 'BURIAL MOUND'

QUALITY ASSURANCE PLAN

Prepared by:

Allied Technology Group, Inc.  
669 Emory Valley Road  
Oak Ridge, TN 37830

February 1999

U.S. ARMY FORT McCLELLAN

DECOMMISSIONING OF THE 'BURIAL MOUND'

QUALITY ASSURANCE PLAN

APPROVAL PAGE

February 1999

Concurrence: Lee A. Young 2/12/99  
Lee Young, Project Manager Date

Concurrence: \_\_\_\_\_  
Joel Cehn, Project QA Manager Date

Recommended  
For Approval: \_\_\_\_\_  
Mike Styvaert, IOC Health Physicist Date

Approval: \_\_\_\_\_  
Nuclear Regulatory Commission Date

U.S. ARMY FORT McCLELLAN

DECOMMISSIONING OF THE 'BURIAL MOUND'

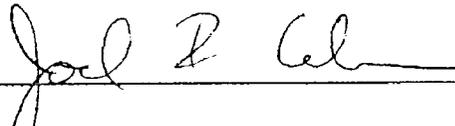
QUALITY ASSURANCE PLAN

APPROVAL PAGE

February 1999

Concurrence: \_\_\_\_\_ Date: \_\_\_\_\_

Lee A. Young, ATG Project Manager

Concurrence:  \_\_\_\_\_ Date: 2/12/99

Joel I. Cehn, ATG Project QA Manager

Concurrence: \_\_\_\_\_ Date: \_\_\_\_\_

Mike Styvaert, IOC Health Physicist

Concurrence: \_\_\_\_\_ Date: \_\_\_\_\_

U.S. Nuclear Regulatory Commission

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## **1.0 INTRODUCTION**

### **1.1 Background**

Allied Technology Group (ATG) has been contracted by the U.S. Army Industrial Operations Command (IOC) Radioactive Waste Disposal Office for the remediation of the 'Burial Mound' of Co-60 and Cs-137 contaminated soils at the Fort McClellan Pelham Range near Anniston, Alabama. As a supporting part of the overall work plan for the project, this Project Quality Assurance Plan has been integrated into the Decommissioning Plan to provide the necessary controls to successfully complete the contract requirements.

### **1.2 Scope and Objectives**

The project Quality Assurance Plan has been developed to meet the applicable regulations and requirements and to assure compliance with the work objective, and requirements of the Decommissioning (Detailed Work) Plan and the Project Health and Safety Plan.

Management and supervisory personnel will be on site to provide instruction and guidance to project personnel in the implementation of this plan.

## **2.0 QUALITY ASSURANCE PROGRAM**

### **2.1 Project Quality Assurance Plan**

The Project Quality Assurance Plan is committed to ensuring that all activities to be performed during this decommissioning project which affect quality are prescribed by and performed in accordance with procedures. The Project Quality Assurance Plan is implemented for the activities specified in the Decommissioning Plan and the Project Health and Safety Plan for the Fort McClellan project. The Project Quality Assurance Plan highlights project specific aspects of the applicable quality assurance elements. The specific quality assurance tasks are defined in the plan.

### **2.2 Quality Assurance Training**

The Project Manager or designated alternate will perform the initial quality assurance training of the project personnel at the start of the project.

If additional personnel are added to the project, they will receive quality assurance training prior to participation in the project activities. Quality assurance training will consist of a review and discussion of the project Decommissioning Plan and supporting documents which shall include the ATG Field Operating Procedures and any additional procedures referenced in the Decommissioning Plan, Health and Safety Plan and the Quality Assurance Plan. Special emphasis will be placed on documentation of work, quality control checks, equipment performance, identification and control of radioactive material and safety procedures.

Each participant shall acknowledge that he/she has received training and that he/she understands the quality assurance requirements relevant to the project by signing and dating the Training Record, ATG Form 027

### **2.3 Technical Training and Personnel Qualifications**

Allied Technology Group management will review written statements of qualification and resumes with reference to the position descriptions as defined in the Decommissioning Plan, Section 2.2, Organization Chart, Position Descriptions and ATG Personnel Resume, to establish personnel capabilities and qualification to perform the assigned task. If comparison of personnel qualification, including education, experience, and training do not fulfill the requirements of the position description to meet project needs, appropriate training including "read and study" and "on-the-job" training will be performed or other appropriately qualified individuals will be assigned to perform the task.

The Project Manager or designated alternate shall review all personnel qualifications and determine the type of training or experience required to ensure that an individual is qualified to perform the work. This review will be documented on the Review of Personnel Qualification, ATG Form 103. Personnel records shall be maintained in the quality assurance record file and shall include a record of the initial qualifications, documentation of review by the Project Manager or designated alternate and acceptance of current qualifications or the need for additional training and a record of the completion of training. Project management shall monitor the performance of individuals involved in activities affecting quality and shall determine if there is a need for retraining or replacement. Retraining or replacement of individuals will be initiated immediately upon identification of the need for such actions. The following guidelines shall be used to determine the proficiency and ability of the workers assigned to this project:

2.3.1 Qualification Requirements:

2.3.1.1 Physically capable of performing the work tasks.

2.3.1.2 Demonstrated capability to perform the specific function in accordance with approved procedures.

2.3.1.3 Familiarity with technical aspects of the equipment and procedures, and capability to verify that the equipment is in proper working condition.

2.3.2 Capability Demonstration:

2.3.2.1 The Project Manager or designated alternate shall determine the type of training or experience required to determine if personnel are qualified to perform the specific tasks.

2.3.2.2 The individual workers shall review the approved project Plans.

2.3.2.3 The individual workers shall demonstrate their understanding of the project Plans.

2.3.3 Support Personnel

2.3.3.1 Minimum personnel will be used to support the cleanup.

2.3.3.2 All support personnel at Fort McClellan will be trained on the applicable hazards on which they are working. This training shall be documented on Training Record ATG Form 027.

2.3.3.3 All support personnel involved in the cleanup activities shall be monitored for exposure and a bioassay analysis performed at the beginning and the completion of work.

2.3.3.4 All support personnel involved in the cleanup activities shall be under the direct surveillance of ATG Radiation Protection Personnel while performing work.

### **3.0 ORGANIZATION**

The Project Quality Assurance Plan oversight will be performed by Headquarters, Industrial Operations Command and the NRC licensee, specifically the base Chemical School. The ATG Quality Assurance Director will report independently of the on-site project management. The Industrial Operations Command will perform unannounced inspections to include a review of ATG QA/QC procedures and their implementation on site during the decommissioning activities.

The QA Manager is responsible for assuring that the Project Quality Assurance Plan is implemented and is adhered to on site. All project records and documents will be submitted to the QA Manager for final approval.

The Project Manager reports to the QA Manager and will act as an on-site quality auditor. The on-site audit reports and records will be submitted to the QA Manager. Quality items that will impact the performance of the contract will be immediately submitted to IOC. Copies of all reports, records or correspondence will be maintained on site for review.

### **4.0 CONTROL OF DATA**

#### **4.1 Planning**

The work tasks necessary to complete this contract will be performed in a planned, systematic manner. To assure adequate project planning, the Decommissioning Plan will be approved prior to the start of work. The Decommissioning Plan will specify the required data collection and records to verify that the contract commitments have been met.

#### **4.2 Data Collection**

Data collection will be performed by the individual performing the tasks or their supervisor. Data collection will be performed in accordance with the Decommissioning Plan, Project Quality Assurance Plan and the Project Health and Safety Plan requirements.

#### **4.3 Documentation**

Data collection shall be fully documented on the appropriate data records and daily

project logs. All records shall be complete and thorough as possible hand written, legible and in ink. Personnel making a change to a record shall cross out the old entry with one line, add the new information and initial and date the change. Under no circumstances shall the old entry be scratched out, whited out, erased or otherwise removed or made illegible. When applicable, an explanation should accompany the change or correction.

#### **4.4 Quality Control Checks**

All data shall be reviewed and checked by a technically qualified person such as the Corporate Health Physicist, the Project Manager or the Project Supervisor. If the Project Manager or Project Supervisor does the Quality Control check, then he/she shall not review their own work. These checks shall be made to assure that both the technical, operational and quality assurance requirements have been met.

The following guidelines will be used to perform the quality control checks:

##### 4.4.1 Verify that the record contains;

4.4.1.1 The project name or task description

4.4.1.2 Name or initials of the performer

4.4.1.3 Date of performance

4.4.1.4 Page number if pertinent.

##### 4.4.2 And, if applicable, that the record has;

4.4.2.1 Conformed with the appropriate procedures

4.4.2.2 Instrument calibration data (instrument identification, calibration date, certificate of calibration, etc.) of survey instruments used is current

4.4.2.3 Completeness and adequacy of the performance and documentation

4.4.2.4 Accuracy of material documented.

If the material being checked conforms to the guidelines, the individual performing the quality control check shall sign and date the record. If the material is rejected, it shall be handled in one of two ways:

4.4.2.4.1 Discuss and correct minor deviations with responsible personnel resulting in subsequent acceptance or,

4.4.2.4.2 Initiate corrective action procedures in the form of a Nonconformance Report, Form ATGF-108.

#### **4.5 Management Review**

The Project Manager or designated alternate shall review all data records prior to submitting them to the QA Manager. The same steps shall be taken with the review that are taken with the quality control checks.

### **5.0 PROCUREMENT DOCUMENT CONTROL**

Procurement or acquisition of packages, plastic bags, protective clothing, safety equipment and radiological survey equipment, etc. may be needed to perform the work tasks. The procurement documents and packing lists will be reviewed upon receipt by the Project Manager or designated alternate to verify that appropriate quality assurance and technical requirements have been met. These records will be maintained with the other project records.

### **6.0 DECOMMISSIONING PLAN**

The detailed Decommissioning Plan for the activities at Fort McClellan and the associated supporting documents shall be reviewed and approved by Allied Technology Group management, IOC, and the Nuclear Regulatory Commission.

The Decommissioning Plan will have systematically numbered steps and pages, a cover page and an approval page. Distribution of copies to pertinent personnel will be accordance with Section 7 of this Quality Assurance Plan, Document Control.

If revisions to the Decommissioning Plan are necessary during the performance of the project, the licensee shall submit any major changes to the NRC for approval. Minor plan

revisions or minor field changes that do not affect the quality of work, objectives, or cause a potential health and safety impact will not require submittal to the NRC for approval. Major changes include revisions that would result in an unreviewed safety question or a change in a license condition. In accordance with Administrative Procedure AROP No. 102, 'Revisions to the Operational Procedures' and the use of Form 104, 'Project Work Plan Change Request', the Project Manager or designated alternate will review all proposed changes to determine if the change is significant. All changes will be documented and highlighted by change bars in the right margins of the text.

## **7.0 DOCUMENT CONTROL**

The Decommissioning Plan and associated supporting documents shall be issued as a controlled document to assure that the current approved revision is in use. Controlled copies of these documents will be issued to project personnel by the Project Manager or designated alternate who will maintain a distribution list of the controlled copies. Personnel assigned controlled documents will be required to acknowledge receipt of the document and all subsequent revisions to the document.

A document Distribution Record, ATG Form 105, shall be maintained to assure that current documents are distributed. When issuing a current document or document revision, a Document Transmittal Record, ATG Form 106 shall be submitted to the recipient. This record will demonstrate that current documents have been issued and are in use. The transmittal record shall be acknowledged and returned to the Director.

The recipient of the controlled document shall return the document to the Director when the requirements for its use ends. Upon return of the controlled document, the Director shall enter the date of return on the Document Distribution Record.

## **8.0 INSPECTIONS**

All quality-affecting work activities data shall be reviewed and checked by an independent Quality Assurance person, per Section 4.4, Quality Control Checks, to verify that they meet project requirements. For radiological measurements, quality control inspections will be performed by randomly verifying survey techniques and survey meter results.

The Project Manager or designated alternate will be responsible for completing the Daily Quality Control Checklist, ATG Form 107. The checklist is designed to account for project

Decommissioning Plan activities that pertain to project tasks and radiation protection concerns.

Unsatisfactory items will be immediately rectified to bring the item to a satisfactory condition. The checklist is to be completed at the end of each shift for that days activities.

## **9.0 CONTROL OF MEASURING AND TEST EQUIPMENT**

Measuring and test equipment shall be controlled and properly maintained to assure that the indicated results are accurate. Measuring and test equipment will not be used for any other purpose than that which the manufacturer intended. The equipment shall be stored, when not in use, in a controlled area so that environmental or physical damage does not occur. Only personnel qualified to use the equipment will be allowed to perform work with the equipment.

Measuring and test equipment that do not perform properly or do not provide good, reproducible results shall be taken out of service. The equipment shall be tagged with an "out of service" tag and removed from the normal equipment storage area.

### **9.1 Calibration**

Radiological survey meters will be supplied from the ATG Oak Ridge Technical Support Office. Meters used by ATG, Inc. are calibrated by a certified calibration facility at a minimum frequency of annually.

Copies of the primary calibration certificates will be sent with the meters to the job site. In addition, survey meters have an attached calibration sticker that indicate the calibration date and the calibration due date. Radiation survey meter performance testing and maintenance will be performed in accordance with the Radiation Survey Procedure.

## **10.0 HANDLING, STORAGE AND SHIPPING**

All radioactive material will be packaged, handled and stored according to the appropriate health and safety procedures. Packaging contaminated soil shall conform to the procedures detailed in the project Decommissioning Plan. Packages shall meet the Department of Transportation (DOT) regulations and burial site requirements. Shipping shall meet all

applicable DOT, State and Low Level Radioactive Waste Compact Commission regulations, as applicable.

The shipment will be manifested using the appropriate disposal site Waste Shipment Manifest and continuation pages. The Project Manager (or designated ATG Senior Broker) shall inspect and sign the shipping manifests.

## **11.0 CONTROL ON NONCONFORMANCE ITEMS**

Procedures have been established and documented to control equipment and activities that do not conform to work plan requirements or whose quality does not meet the intended use. Nonconforming items, including reviewed data, shall be identified, documented, segregated or disposed of as appropriate. Nonconformance includes noncompliance with the technical procedures, contract documents or errors in documented analyses or results. Nonconformance reports shall be prepared, including a description of the nonconformance and the proposed corrective action or disposition such as accept, reject, repair or rework. Nonconforming items or data shall be marked as nonconforming and shall not be used in any further activity until corrective action has been satisfactorily completed or an acceptable disposition approved by the Project QA Manager.

Persons determining corrective action or disposition shall have demonstrated competence, have an adequate understanding of the requirement, and have access to pertinent background information. Proposed corrective action or disposition and completion of corrective action shall be reviewed and approved in accordance with Section 12.0, Corrective Action.

### **11.1 Identification and Reporting of Nonconformances**

A nonconformance exists if there is a deviation from or noncompliance with the Detailed Work Plan or contract specifications. Nonconformances also include major errors in documented analysis, data or results and deficiencies in documentation or any other aspect of the project that affects quality. Personnel who identify a nonconformance shall report the condition by:

11.1.1 Completing Part A of the Nonconformance Report, ATG Form 108;

11.1.2 Request a nonconformance number from the Project Manager or designated alternate;

11.1.3 Distribute the nonconformance report to IOC, the Project Manager or designated alternate, and the Project QA Manager;

11.1.4 Notification of all nonconformances and copies of all Nonconformance Reports will be provided to the IOC Health Physicist and the NRC Representative.

## **11.2 Evaluation of Nonconformance Reports**

IOC and the Project QA Manager will review the nonconformance report to determine if any of the following conditions exist and document the findings by completing Part B of the Nonconformance Report.

11.2.1 IOC may elect to evaluate the nonconformance item with the Project Manager or designated alternate, and Project QA Manager to determine if the nonconformance item could invalidate the results of ongoing work. If the nonconformance(s) incident in any way affects the health of workers and/or the environment, it shall be reported to all appropriate facility personnel. If work is stopped, it shall be so noted on the nonconformance report. All affected work shall be immediately stopped and the Project QA Director notified. Work shall not be restarted until corrective action is approved and work authorized to restart by IOC.

11.2.2 If the nonconformance constitutes a significant condition adverse to quality, determine the cause of the condition. Examples of significant conditions adverse to quality include significant failures to implement the project Decommissioning Plan or major errors in data or analysis which had previously been approved.

11.2.3 If the nonconformance has any impact on previously obtained data or reports submitted to the Fort McClellan or the IOC representatives, the Project Manager or designated alternate shall note the impact in the remarks section of the nonconformance report and notify in writing all individuals and organizations that may be affected by the nonconformance and resulting data.

## **11.3 Tracking Nonconformance Reports**

The Project QA Director shall monitor nonconformance reports to determine if trends adverse to quality are developing. If such trends are developing, such as repetitive

reports related to a particular activity, a written report will be submitted to all project personnel identifying the particular problem. The Director will evaluate the identified problem and propose and implement a written corrective action program to prevent recurrence of the nonconformance.

## **12.0 CORRECTIVE ACTION**

Corrective action for conditions adverse to quality will be determined and implemented in a timely manner. Conditions adverse to quality are any of the following: failures, malfunctions, deficiencies, defective items and nonconformances. A significant condition adverse to quality is one which, if uncorrected, could have a serious effect on safety, operability or validity of data. The cause of the condition will be determined and action taken to preclude the recurrence of the nonconformance item. IOC shall verify that the corrective action has been implemented and, if necessary, that the Detailed Work Plan has been revised.

### **12.1 Recommendation of Corrective Action**

The project personnel that recommend the corrective action will document the recommendation on Part C of the Nonconformance Report. In the case of a nonconformance which is a significant condition adverse to quality, the corrective action shall be such as to preclude recurrence of the non-conformance. The recommended corrective action will be reviewed and approved by IOC.

### **12.2 Corrective Action Implementation and Verification**

The approved corrective action shall be implemented by the appropriate project personnel. When implementation is verified by IOC, the Project QA Manager, and the Project Manager, Part D of the Nonconformance Report will be completed. The completed nonconformance report will be maintained on site with the nonconformance record log in the project file.

## **13.0 QUALITY ASSURANCE RECORDS**

A quality assurance records system for the project will be implemented and maintained. Records shall be in ink, legible, identifiable and retrievable. The quality assurance records will be sufficiently detailed to properly reflect all work activities in the performance of this contract.

These records may be in the form of data sheets, notes, graphs, comments, computations and other graphic or written data generated in connection with the work activities. Records will be considered valid only if the individual completing the record has initialed or signed and dated the record. If revisions or changes to the quality assurance records are required, the changes will be made to the original records by crossing out the old entry with one line, adding the new information and initialing and dating the change.

The Project Manager or designated alternate will be responsible for maintaining and protecting the records. The records will be maintained on site with the project files. File access will be limited to project personnel and authorized contract personnel. At the completion of the project, the Project Manager or designated alternate will submit all project QA records to the QA Director. A copy of all project documents will be provided with the Final Report to the Fort McClellan representative, IOC Health Physicist, and IOC Contracting Officer.

#### **14.0 QUALITY ASSURANCE AUDITS**

No formal quality assurance audits are planned for this activity. A quality assurance audit may be performed if the Director deems necessary. Quality Assurance records will be evaluated and audited by the Director at the end of the project.

#### **15.0 REFERENCES**

- 15.1 U.S. Code of Federal Regulations, Title 10, "Energy", Part 19 and Part 20.
- 15.2 U.S. Code of Federal Regulations, Title 29, "Labor", Part 120.
- 15.3 U.S. Code of Federal Regulations, Title 40, "Protection of the Environment".
- 15.5 NUREG/CR-5849 "Manual for Conducting Radiological Surveys in Support of License Termination", Draft June 1992.
- 15.6 U.S. Nuclear Regulatory Commission Division of Industrial and Medical Safety, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material (August 1987)".
- 15.7 Allied Technology Group "Health and Safety Plan for Decommissioning the Fort McClellan 'Burial Mound'".

- 15.8 Allied Technology Group "Decommissioning Plan for the Fort McClellan 'Burial Mound'".

**16.0 FORMS**

- 16.1 ATGF-027 Training Attendance Record
- 16.2 ATGF-103 Review of Personnel Qualifications
- 16.3 ATGF-104 Project Work Plan Change Request
- 16.4 ATGF-105 Document Distribution Record
- 16.5 ATGF-106 Document Transmittal Record
- 16.6 ATGF-107 Daily Quality Control Checklist
- 16.7 ATGF-108 NonConformance Report

# FORMS



## REVIEW OF PERSONNEL QUALIFICATIONS

<b>NAME:</b>	<b>POSITION:</b>
<b>EDUCATION, TRAINING AND EXPERIENCE:</b>	
<b>QUALIFICATIONS ACCEPTED (Yes / No)</b>	<b>ADDITIONAL TRAINING REQUIRED:</b>
<b>NOT FIT FOR DUTY:</b>	
<b>REVIEWED BY (PROJECT DIRECTOR):</b>	<b>DATE:</b>
<b>ADDITIONAL TRAINING ASSIGNMENT:</b>	
<b>QUALIFICATIONS ACCEPTED (Yes / No)</b>	
<b>REVIEWED BY (PROJECT DIRECTOR):</b>	<b>DATE:</b>



# DOCUMENT TRANSMITTAL RECORD

<b>NAME AND TITLE OF RECIPIENT:</b>			
<b>DOCUMENT NAME:</b>			
<b>REVISION NUMBER:</b>		<b>DOCUMENT DATE:</b>	
<b>INSTRUCTIONS OR REMARKS:</b>			
<b>DOCUMENT SENT BY THE PROJECT DIRECTOR TO:</b>			
<b>NAME:</b>		<b>TELEPHONE:</b>	
<b>STREET ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>
<b>PLEASE COMPLETE THE FOLLOWING, SIGN AND RETURN TO SENDER:</b>			
<input type="checkbox"/> I acknowledge that I received the document or document revision and that I have updated my records.			
<input type="checkbox"/> I am returning the document with this transmittal record.			
<b>SIGNATURE:</b>		<b>DATE:</b>	
<b>DOCUMENT TRANSMITTAL RECORD COMPLETE AND APPROVED</b>			
<b>SIGNATURE (Project Director):</b>		<b>DATE:</b>	

# DAILY QUALITY CONTROL CHECKLIST

DATE: \_\_\_\_\_

	S	NS
1. PERSONNEL MONITORING		
DOSIMETRY		
RWP REQUIREMENTS MET		
RWP ACCESS LOG COMPLETE		
2. INDUSTRIAL SAFETY		
HARD HATS AND EQUIPMENT SAFETY GLASSES WORN		
SAFETY EQUIPMENT USED		
WORK AREAS SECURED		
SAFETY RULE VIOLATIONS INVESTIGATED		
3. WORK PLAN REQUIREMENTS		
WORK PLAN PROCEDURES FOLLOWED		
SCHEDULE COMMITMENTS MET		
WORK AREAS CLEANED AND SET UP FOR NEXT DAY		
4. RADIATION SURVEYS		
ROUTINE SURVEYS COMPLETE		
AREA POSTINGS UPDATED		
BARRELS LABELED		
SURVEY RESULTS ACCEPTABLE		
5. STOP WORK CONDITIONS		
STOP WORK ORDERS INVESTIGATED		
CORRECTIVE ACTION IMPLEMENTED		
<p>S = SATISFACTORY                      NS = NOT SATISFACTORY</p>		
SIGNATURE (Health and Safety Officer):	DATE:	

# NONCONFORMANCE REPORT

NONCONFORMANCE REPORT NO: \_\_\_\_\_

PART A			
Description of Nonconformance:			
PART B			
Evaluation of Nonconformance:			
Work Stoppage Required (Yes / No)?		Impacts Previous Data (Yes / No)?	
SIGNATURE:		DATE:	
PART C			
Recommended Corrective Action:			
SIGNATURE:		DATE:	
PART D			
Corrective Action Implemented:			
Corrective Action to Nonconformance Approved:			
ATG Health & Safety Officer	Date	ATG Project Director	Date

**'BURIAL MOUND DECOMMISSIONING PLAN  
FORT McCLELLAN**

**APPENDIX 3**

**ORDNANCE AND EXPLOSIVES (OE)  
AVOIDANCE PLAN**

# **OE AVOIDANCE PLAN**

**for**

**FORT McCLELLAN  
Calhoun County, AL**

**Prepared by**

**Allied Technology Group (ATG)  
669 Emory Valley Road  
Oak Ridge, TN**

**January 5, 1999**

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1. **Purpose.** Prescribe policies and procedures for performing ordnance avoidance, during removal of debris, excavation of contaminated soil, and soil screening and sampling operations.

2. **Scope.** This Work Plan applies to all agencies and personnel involved with the on-site UXO support activities at Fort McClellan in Anniston, Calhoun County, AL, which have the potential for encountering Ordnance and Explosives (OE). These activities include but are not limited to surveying, soil sampling, removal of debris and excavation of contaminated soil.

3. **References.**

DoD 6055.9-STD	DoD Ammunition and Explosives Safety Standards
ATG	ATG Quality Assurance Program for UXO, OE and OD Projects
OSHA	OSHA Construction Industry Standard
29 CFR 1910.120	
TM 9-1300-214	Military Explosives
TM 9-1300-206	Ammunition General

4. **Definitions.**

a. Ordnance and Explosives (OE) is an umbrella term to include anything related to munitions designed to cause damage to personnel or material through explosive force, incendiary action or toxic effects, such as bombs, guided and ballistic missiles, artillery, mortar and rocket ammunition, small arms ammunition, antipersonnel and antitank land mines, demolition charges, pyrotechnics, grenades, torpedoes and depth charges, containerized and uncontainerized high explosives and propellants, depleted uranium projectiles, toxic chemical agents, and all similar or related items or components in nature or otherwise designed to cause damage to personnel or material. Soils with explosive constituents will be considered OE if the concentration is sufficient to present an imminent safety hazard.

(1) Unexploded ordnance (UXO) is an ordnance item which has been primed, fuzed, armed or otherwise prepared for action and which has been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to friendly operations, installations, personnel or material and remains unexploded either through malfunction or design or for any other cause.

(2) Chemical Agent is a substance intended for use in military operations to kill, seriously injure or incapacitate a person through its physiological properties. Excluded from consideration are industrial chemicals, riot control agents, chemical herbicides, smoke and flame.

- (3) Chemical Agent Material is a quantity of chemical agent, or other substance or material contaminated with a chemical agent.
  - (4) Inert Ordnance is an item that has functioned as designed, leaving an inert carrier; an item manufactured to serve a specific training purpose or fragments from a UXO.
- b. Explosive Ordnance Disposal (EOD) is the detection, identification, field evaluation, rendering safe, recovery and final disposal of OE.
  - c. EOD personnel are active duty military EOD individuals.
  - d. UXO personnel are former EOD individuals employed by a civilian contractor.

**5. Policy.**

- a. It is the Department of Defense policy to provide the maximum possible protection to personnel and property from the damaging effects of potential accidents involving ammunition and explosives.
- b. No person shall be required or instructed to work in surroundings or under conditions which are unsafe or dangerous to health.
- c. Only military trained EOD/UXO personnel will handle UXO materials. The UXO Team shall not perform disposal activities.
- d. Work schedules shall be based on a 10 hour work day. This may be further modified to a maximum of 10 hours per day with no more than 60 hours worked within a 7 day period.
- e. All appropriate training/health certificates will be provided prior to commencing work at the site.

**6. Procedures.**

- a. Work Site Establishment.

(1) As site conditions warrant, the following zones will be established:

- (a) Exclusion Zone (EZ) is the area where UXO/OE could be present. All personnel entering this area will enter and exit through an entry and exit control point. No smoking, eating or drinking will be allowed in this area.

- (b) Contamination Reduction Zone is that area immediately at the boundary of the entry and exit point in the EZ. This area will be used to control entry and exit and decontamination as required of personnel and equipment exiting the EZ.
  - (c) Support Zone (SZ) is the staging area for personnel and equipment that are supporting operations in the EZ. The SZ will include the site access control point, the command post, the equipment staging area, sanitary facilities, an area for visitors as required and a break area.
- (2) Prior to moving into the site, the UXO team shall examine the surface of the ground for the presence of UXO items. This reconnaissance shall include locating a clear path for the access and removal of the work crew, vehicles and equipment. Boundaries shall be marked to prevent personnel from straying into uncleared areas. No person shall be allowed into the uncleared areas.
  - (3) Any UXO item which is found will be identified and moved to a safe area if the item is determined to be safe to move. If the item is not safe to move, it will be marked and left in place for handling by an EOD team. This information will be reported to the Corps of Engineers / Base representative. The UXO Team shall not perform disposal activities.

b. UXO Sweeps and Surveys.

- (1) Any type of activities (foot or vehicle traffic), within an area identified as being suspected of being contaminated with OE, will be preceded by a surface survey for UXO.
- (2) UXO support will be performed by one or two UXO persons depending on the task to be performed.
- (3) Magnetometer sweeps will precede any investigative and excavation activities as required. Geophysical survey (GPR/magnetometer) will be made on foot. Calibration, pre-operation, during-operation and post-operation magnetometer checks will be made IAW manufactures instructions and other references as required.
- (4) Comprehensive surveys will be conducted over the 'Burial Mound' surface and of the immediately adjacent grounds. Once surface magnetometer sweeps have been performed, operations may proceed with excavation and removal of the above grade pile. The UXO Team Leader will monitor all excavation (i.e., cutting / hauling) operations and instruct

the equipment operator accordingly. Monitoring will be resumed over the area at subsequent depths after each two foot increment has been removed.

- (5) Procedures for excavating anomalies, as required, will normally be conducted using earth moving equipment to gain access to within one foot of the anomaly. At that point a UXO individual will use hand digging instruments to uncover the anomaly until a positive identification can be made.
- (6) Direct inspection of the removed and screened soil material will be performed periodically during radiological monitoring as the soil moves via the powered conveyor under the detector array. The UXO Team Leader will monitor the material flow by direct observance.

c. UXO Support.

- (1) If a UXO item is discovered, all operations will be halted until identification and disposition operations have been performed. UXO personnel will determine the condition of the UXO. If disposal action is required, military EOD support will be requested.
- (2) While the UXO Team is monitoring the excavation and screening operations, no other personnel should be allowed in the area except those absolutely necessary to operate equipment or provide other required services.
- (3) During UXO related activities, the UXO Team will not wear safety shoes or other footwear which would cause the magnetometer to present a false indication. Additionally, UXO personnel will not wear protective helmets (hard hats) unless an overhead threat is present.

d. Qualifications for UXO Personnel.

- (1) UXO Team Leader is a graduate of the US Naval EOD School, Indian Head, MD, and qualified, through past military and civilian experience, to serve as the senior UXO individual on site. He shall have documented experience in supervising range clearance operations and supervising personnel. He shall have at least 10 years of combined military active duty EOD and contractor UXO experience.
- (2) UXO Team Member is a graduate of the US Naval EOD School, Indian Head, MD, and qualified, through past military and civilian experience, to serve as a UXO supervisor. He shall have at least 3 years of active duty EOD experience. This individual may be a UXO assistant with five years combined active duty military EOD and contractor UXO experience.