CORPORATE ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM

Revised
January 2006

EOD TECHNOLOGY, INC.

CORPORATE ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM

CORPORATE POLICY #3-02

EFFECTIVE DATE: JANUARY 2006

Prepared by: _____ Date: _____
Michael Findley, Ph.D., CIH, CSP
Environmental Safety and Health Manager

Reviewed by: _____ Date: _____
Steve Voland
Vice President Operations

Approved by: _____ Date: _____
Matthew R. Kaye
President

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF STANDARD OPERATING PROCEDURES

(in separate document)

LIST OF ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
ALARA	as low as reasonably achievable
BRAC	base realignment and closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESHP	Corporate Environmental Safety and Health Program
CIH	certified industrial hygienist
CRZ	contamination reduction zone
DERP	Defense Environmental Restorations Program
EPA	U. S. Environmental Protection Agency
ESH	environmental, safety and health
ESHM	environmental, safety and health manager
FUDS	formerly used defense sites
HTRW	hazardous, toxic, and radioactive waste
IDLH	immediate danger to life and health
HEPA	high-efficiency particulate air
LEL	lower explosive limit
MEC	Munitions and Explosives of Concern
MMR	Military Munitions Response
NIOSH	National Institute of Occupational Safety and Health
NPL	National Priorities List
OE	Ordnance and Explosive
OSHA	Occupational Safety and Health Administration
PAPR	powered air purifying respirator
PEL	permissible exposure limit
PM	project manager
PSD	personal security detail
QA	quality assurance
QC	quality control
SARA	Superfund Amendments and Re-authorization Act
SCBA	self-contained breathing apparatus
SESHP	Site Environmental Safety and Health Plan
SSHO	Site Safety and Health Officer
STEL	short-term exposure limit
SUXOS	Senior UXO Supervisor
TA	trained assistant
TLV	threshold limit value
TWA	time weighted average

UXO	Unexploded Ordnance
UXOSO	UXO safety officer
VPO	vice president operations

1.0 INTRODUCTION

1.1 EODT COMPANY DESCRIPTION

EOD Technology, Inc. (EODT) is an employee-owned professional services company based in Lenoir City, TN., specializing in Military Munitions Response (MMR) and related services which includes Munitions and Explosives of Concern (MEC), a term which encompasses previous terms in use including Ordnance and Explosives (OE) and unexploded ordnance (UXO), as well as Critical Mission Support in the form of force protection, security, training, IT, armoring, logistics and related services. Our range of MMR expertise includes the full spectrum services required to address a UXO and/or OE contaminated site from initial assessment through remedial action and recurring review. Our Critical Mission Support services cover the gamut of Force Protection services such as fixed base, Personal Security Detail (PSD), convoy, and training; as well as homeland defense, anti-terrorism, and threat/risk assessments; IT services such as remote communications radio and data networking; armoring services primarily for the handling of commercial and military vehicles; and various logistics functions. Our vision is based on a commitment to safety, continuous improvement, and customer satisfaction, and the ability to project the necessary resources anywhere on an expedited basis. EODT maintains this vision by delivering superior value to the projects we undertake through rapid projection of required resources, continuous improvement, fostering innovation, and professional project management. A summary of major EODT operations follows:

1.1.1 MMR Support Services

EODT provides MMR support services for environmental remediation of former World War I and II military training sites across the United States from Long Island to California. There are over 9,000 sites nationwide which have the potential for munitions contamination. In the case of some of these sites, there is a potential for human exposure to the munitions. Congress established the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS) to clean up former military training sites.

Increasingly similar to Hazardous, Toxic, and Radioactive Waste (HTRW) contamination remedial responses required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanups, MMR services require a range of technical and professional capabilities beyond ordnance response expertise. These capabilities include engineering, environmental sampling, regulatory analysis, community and public relations, survey, geophysics, information technology, risk assessment, logistics, and project management.

1.1.2 Range Sustainment

EODT's range sustainment program facilitates continuous military combat training while making range operations safer and more environmentally sound. EODT has assembled several MMR related expertise areas in developing a range sustainment product line called – RangeXchange®. Major military complexes, primarily domestic, but not exclusively so, are suffering from encroachment issues from their neighboring communities which limit training flexibility. This has become particularly severe during the Iraq conflict, and will become increasingly severe as Base Realignment and Closure (BRAC) continues. The RangeXchange® program provides installations a better way to maintain operational readiness while providing more environmentally friendly solutions to training range challenges. EODT decontaminates active military ranges by destroying any unexploded munitions, removing munitions scrap and debris, and replacing training targets with targets made from recycled sheet metal. The value of existing military scrap can be applied against the project cost; the RangeXchange® targets, GreeenTargets® are environmentally superior; and the ranges can be cleared on an expedited basis with EODT's cadre of UXO professionals

1.1.3 Critical Mission Support

EODT provides Critical Mission Support as a force multiplier to the military in austere and post-conflict environments. EODT offers a range of force protection and security services, ranging from consultation to the deployment of physical assets on the ground. In each case EODT's approach is based on the application of timely intelligence, detailed planning, and disciplined execution based on advanced logistics. EODT capabilities include training, vulnerability and threat assessments, physical security assessments, static facility security, personnel/vehicle gate security, convoy security, close protection/VIP escort, quick response forces, canine detection, and armoring.

1.1.4 Demining

Landmines are often a border-protection technique between countries where conflict exists. Hundreds of lives are lost and unnumbered injuries are sustained each year by landmine related accidents. Many of the countries do not have the personnel expertise to respond to landmines. EODT has the skill sets to conduct demining (terrestrial or aquatic) anywhere in the world. The safe removal and decontamination of these mines is among the most sensitive of operations. EODT applies its extensive MEC and demining experience to respond to landmines.

1.1.5 MEC Contaminated Property Development

EODT is at the forefront of the private sector market for MEC contaminated property redevelopment. EODT identifies MEC damaged property with development potential in the near term, and works with property developers to cleanup the property so that it may be used constructively. Properties that would otherwise remain hazardous and unused are converted into profitable developments which increase community real estate value and further reduce MEC risks.

1.2 PROGRAM OVERVIEW

1.2.1 Introduction

The Corporate Environmental, Safety, and Health Program (CESHP) embodies EOD Technology, Inc.'s (EODT's) belief that all accidents are preventable. The objective of the CESHP's is to systematically integrate ES&H protection into management and work practices at all levels so that workers, the public, and the environment are protected. EODT has developed this CESHP in order to outline the programs and operational procedures that EODT will use to control environmental, safety and health (ES&H) hazards associated with EODT activities. As described in section 1.1, EODT performs a wide range of services. This CESHP was developed to meet the most stringent ES&H requirements posed by EODT operations. For that reason, on selected projects where hazards are minimal a number of sections of this CESHP may not be applicable. It is the responsibility of the Project Manager (PM) with support by the Environmental, Safety and Health Manager (ESHM) to determine the applicability of the CESHP to the planned work.

The relationship of EODT's ES&H Program to external requirements; EODT Policies, Procedures, and Standard Operation Procedures; and Project specific Work Plans, Accident Prevention Plans, Activity Hazard Analysis and Site-Specific ES&H plans is presented in Figure 1-1. All EODT work is subject to Federal, State, and local law/regulations as well as client requirements and Project Managers are charged with the responsibility for identifying Project specific ES&H requirements. EODT's overall approach to performing work is described in the EODT Policy & Procedures Manual that includes ES&H related matters such as the Company Operating Philosophy and Crisis Management Program. EODT utilizes the Administrative Procedures Manual and the Project Management Handbook to plan and perform work. The EODT Corporate ES&H Program describes the programs and operational procedures that mitigate and/or control the range of ES&H hazards present in the EODT's widely diverse scopes of work. EODT's ES&H Standard Operating Procedures describe EODT's standardized

approach to performing common hazardous tasks and ensuring ES&H compliance. EODT Work Plans integrate ES&H requirements into all facets of management and work practices. EODT Accident Prevention Plans are developed when additional ES&H Program guidance is needed over and above the ES&H Program, Standard Operating Procedures, and Work Plan. EODT Activity Hazard Analysis are developed and implemented when task specific hazard controls are required. Finally, an EODT Site-Specific ES&H Plan is developed and implemented when hazardous waste work covered by the Occupational Safety and Health Administration's HAZWOPER Standard, 29 CFR 1910.120, is performed. EODT ensures ES&H compliances through implementation of a work planning process based on external and internal requirements, and commensurate with the complexity and hazards of the work.

1.2.2 Policy

EODT's approach to performing work is described in the EODT Policy and Procedure Manual. This manual, contained under separate cover, provides guidelines for program development and implementation. Inherent in the policies of EODT is the goal to provide all personnel with a safe and healthful work environment that is free of uncontrolled ES&H hazards. It is also the policy of EODT to comply with all federal, state, and local regulations, and with client-specific ES&H requirements. Whenever possible, client ES&H requirements will be reviewed by EODT prior to the design and development of work plans. EODT's ESHM and PM will work closely with the client's safety, health, and project management representatives to ensure the accurate assessment of project tasks, to determine the ES&H control measures to be implemented during the project.

1.2.3 Scope and Objective

This CESHP shall apply to all tasks and operations conducted by EODT personnel and subcontractors associated with EODT projects. The objective of this CESHP is to establish an ES&H foundation which EODT will use to structure on-site operations and tasks. Additionally, this CESHP is to ensure compliance with federal OSHA requirements of 29 CFR 1910 and 1926, and COE requirements. EODT has the responsibility for implementing its ES&H Program.

For those projects involving hazardous waste or emergency response operations, and as stipulated by client requirements, this CESHP will be supplemented by the generation of a project-specific Work Plan (WP), containing a Site Environmental, Safety and Health Plan (SESHP). The design elements involved in development of the project-specific SESHP are discussed in Section 6.0 of this CESHP. Both the CESHP and SESHP are to be adhered to in performing all EODT projects.

1.3 APPLICABLE REGULATORY REQUIREMENTS

EODT shall comply with all applicable federal, state, and local laws and regulations including those protecting workers, air, water, soil, and those governing land use, waste disposal, and chemical and pesticide usage. This CESHP has been designed to meet OSHA requirements, and where applicable, the U.S. Army Corps of Engineers (USACE) Safety and Health Requirements Manual. EODT's CESHP and SESHP, where applicable, are designed to comply with the latest editions of applicable federal, state, and local regulations, including:

1. OSHA General Industry Standards, 29 CFR 1910
2. OSHA Construction Standards, 29 CFR 1926
3. Applicable sections of EPA 40 CFR, Parts 260 to 299
4. Applicable sections of DOT 49 CFR, Parts 100 to 199
5. Applicable sections of 27 CFR, Part 55, Commerce in Explosives
6. USACE EM 385-1-1, Safety and Health Requirements Manual, 1996
7. USACE ER 385-1-92, Safety and Occupational Health Document Requirements for Hazardous Waste Remedial Actions, 19 March 1994
8. AR 50-6, Chemical Surety
9. DA PAM 50-6 (Draft); Chemical Accident or Incident Response and Assistance Operations
10. AR PAM 385-61 (Draft), Army Toxic Chemical Agent Safety Program
11. DA PAM 385-61 (Draft), Toxic Chemical Agent Safety Standards
12. DA PAM 40-8, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Nerve Agents GA, GB, GD, and VX
13. DA PAM 40-173, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Mustard Agents H, HD, and HT
14. AR 385-40 (w. USACE Supplement 1), Accident Reporting and Records
15. FM 3-9, Potential Military Chemical/Biological Agents and Compounds
16. CEHNC Safety Concepts and Basic Considerations for Unexploded Ordnance (UXO) Operations
17. Title 10 CFR 835, Occupation Radiation Protection
18. Title 10 CFR 850, Chronic Beryllium Disease Prevention Program
19. DOE-STD-1090-2004, Hoisting and Rigging Manuals

1.4 SUB-TIER SUBCONTRACTORS

When EODT utilizes the services of sub-tier subcontractors, these sub-tier subcontractors shall meet the applicable client requirements for ES&H qualifications. EODT shall ensure that all sub-tier subcontractors adhere to the EODT ES&H Plan. These sub-tier subcontractors shall be

included in the EODT work specific ES&H Plan and EODT shall ensure that sub-tier subcontractors work within the requirements of applicable contracts.
If new or additional sub-tier subcontractors are to be used, EODT will notify the customer at least ten days before the proposed start date and submit documentation of applicable ES&H qualifications.

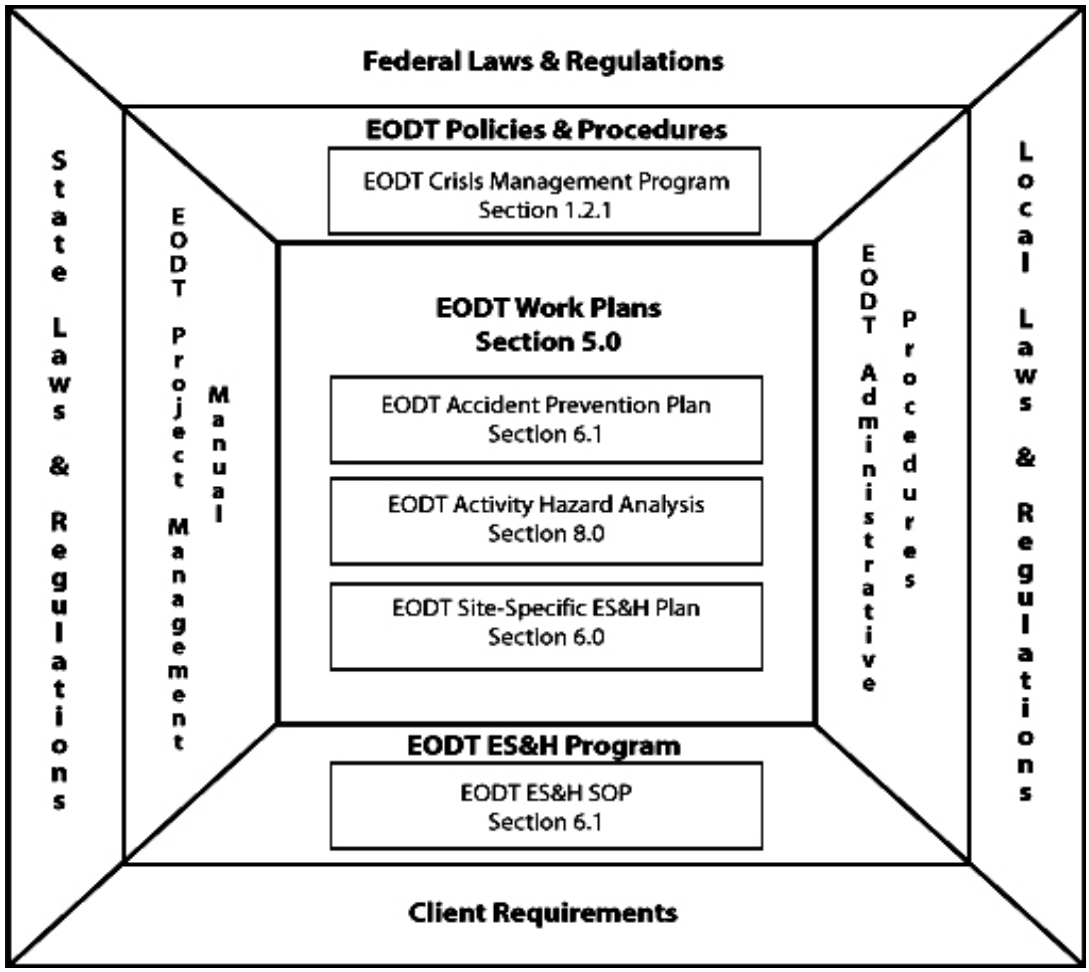
1.5 STOP WORK

EODT will promptly evaluate and resolve any noncompliance with ES&H requirements. If noncompliance with ES&H requirements can not be resolved, or acts, or failures to act potentially causes substantial harm or imminent danger to the environment or health and safety of employees or the public, EODT will issue a Stop Work Order. Resumption of work must be authorized jointly by the Vice President Operations (VPO) and the Environmental, Safety, and Health Manager (ESHM). EODT will recognize and act on Stop Work Orders issued by the client and in those cases resumption of work will require client approval as well as EODT VPO and ESHM approval.

EODT and subcontractor personnel are encouraged to maintain a questioning attitude, and in cases where any member of the Team is unsure of the Scope of Work tasks and/or their safety, work will be halted and reevaluated by the Site Manager and the Site Safety and Health Officer (SSHO). When the EODT Site Manager and SSHO can not resolve the concern it shall be elevated to the VPO and ESHM for review and resolution.

The Site Manager and SSHO or the VPO and ESHM may issue a formal Stop Work Order in response to personnel concerns. Work will not be resumed until the personnel concerns are properly resolved.

Figure 1-1 Relationship of EODT's ES&H Program to Requirements and EODT Polices, Plans, and Procedures



2.0 ZERO ACCIDENT POLICY/ISMS/ALARA

EODT is dedicated to the concept that all accidents are preventable. EODT is committed to "Zero Accident Performance" (ZAP) and continually strives, through Integrated Safety Management System (ISMS), to obtain this goal through continuous improvement-of-work practices. ZAP includes zero non permitted discharges or release with respect to protection of the environment. In accordance with ZAP, EODT is dedicated to the concept that all accidents are preventable when safety and health are used as the foundation for supporting quality and production. EODT strives at all times to systematically integrate safety, health, and environmental protection into all levels and facets of management and work practices so that workers, the public, and the environment are protected and project goals are attained in a timely, cost efficient manner. The ZAP adopted by EODT embodies the following principles:

1. The safety and health of employees, site visitors, and the public, and the protection of the environment are the first priorities.
2. All accidents are preventable.
3. Line management is directly responsible for the protection of the public, the workers, and the environment.
4. No unsafe act is tolerated or accepted.
5. Clear and unambiguous lines of authority and responsibility for ensuring safety are established at all organizational levels.
6. ES&H controls are tailored to the work being performed.
7. Managers and supervisors are proactive in field implementation of ES&H policies and programs.
8. The work to be performed is clearly defined and understood by all personnel involved.
9. ES&H and pollution prevention/waste minimization considerations are planned into all activities before work begins.
10. All EODT subcontractors must also adopt and adhere to a Zero Accident policy.
11. Employees are trained and qualified commensurate with their responsibilities.
12. Accidents and incidents are immediately reported, investigated, and followed by timely corrective actions.
13. If appropriate, informed and resourced employees are responsible for their own actions or inactions in protecting their health.

EODT has adapted the following objectives in support of ZAP:

1. Strive to eliminate all injuries, illnesses, and adverse impacts to the environment.

2. Promote environment, safety, and health (ES&H) objectives as a constant value in designing, planning, training, and executing work through the integrated safety management process.
3. Spread ownership for environment, safety, and health program effectiveness throughout the teams.
4. Enhance employee awareness and involvement in their ES&H program implementation.
5. Increase employees' consistent use of safe practices in their daily work activities.
6. Optimize the use of continuous improvement practices as the basis for "Zero Accident Performance" initiatives.
7. Demonstrate to the client that EODT is dedicated to safety excellence.
8. Expect senior management to demonstrate leadership and direction for "Zero Accident Performance" implementation.
9. Ensure all employees are empowered to implement and consistently strive for the "Zero Accident Performance" goal.

An element of EODT's Zero Accident policy is its policy to maintain personnel exposures to recognized site hazards As Low As Reasonably Achievable (ALARA). This ALARA policy drives EODT site/project management personnel to design, develop, and implement a technical approach that removes task/site hazards from the task through the use of appropriate control measures and techniques. ALARA procedures are developed by the VPO, ESHM, SSHO, and Site Manager, and placed into site plans, approved by the client, and implemented. Each individual working in a restricted area will be required to adhere to established ALARA procedures presented in the associated SESHP. Examples of ALARA procedures are those used to ensure: proper training of personnel; application of safe work practices; and use of effective engineering controls, good personal hygiene, and, when required, personal protective equipment.

3.0 INTEGRATED SAFETY MANAGEMENT SYSTEM

EODT shall ensure that management of ES&H functions and activities becomes an integral and visible part of work planning and execution. EODT has implemented an Integrated Safety Management System (ISMS) that promotes the core values and principles set forth by the Department of Energy (DOE). EODT's approach to implementation of our ISMS process is described in the following sections.

3.1 WORK PLANNING

Work planning will be performed (1) before beginning a new activity, (2) when changes are made to an ongoing work activity, and (3) prior to terminating an activity. The objective of the work planning is to reduce the risk associated with each work activity to an acceptable level. A multi-disciplinary team comprised of management, supervision, technical experts and field personnel will be formed to develop the Work Plan. Subject-matter expertise shall be used as needed to ensure this objective is met. EODT will identify the individual(s) responsible for planning the work activity and ensure the following elements are addressed:

1. Define the tasks to be performed and the methods and equipment used to perform them.
2. Identify regulatory requirements associated with the work.
3. Specify the technical objectives and elements to be performed.
4. Identify the location in which that activity will take place.
5. Appoint an individual to supervise the work activity.
6. Identify the individuals to perform the work.

The management chain will then ensure that the work activity is properly analyzed, controlled, performed, and monitored.

3.2 DEFINE THE SCOPE OF WORK

The objective of the work activity must be clearly understood so that the specific work elements can be defined to translate the mission into work, set project team expectations and to prioritize and allocate appropriate resources. Once the work is defined and broken down into prioritized subtasks, a project team can be assembled and the roles and responsibilities of each member determined.

Balance Priorities. Management of ES&H issues shall be balanced with other project concerns (e.g., deliverables, milestones, other work in progress, and the various risks associated with the

activity). ES&H costs will be included in the budget and adjusted to ensure safety considerations are met, particularly if there is a short time schedule for completing the work. Adequate time must be allowed to perform the work safely.

Worker Involvement. Whenever possible, workers are expected to be involved in work planning to ensure the activity can be accomplished as intended. It is recognized that some activities are planned before the field personnel who will be performing the work are identified. In such cases and where practical, EODT will include other worker(s) not anticipated to be a participant in the work in the planning stage. However, once personnel are identified, EODT will ensure that they have the opportunity to understand the work requirements and raise any concerns. The Project Manager will consult the ESHM and the SSHO during that portion of the planning process that deals with ES&H issues to help establish cost-effective alternatives, eliminate unnecessary requirements, and allow everyone participating in the work activity to understand the ES&H issues.

Identify Customer and Regulatory Requirements. Applicable contractual requirements and customer prioritization and milestones are identified. Environmental, occupational health and safety, radiological requirements applicable to each distinct subtask are identified as well as applicable standards and Federal, State and Local regulations.

Terminating Activities. The authorizing organization is to ensure that adequate resources are made available to provide for the orderly closure and transitioning of activities for which they are responsible.

3.3 IDENTIFY AND ANALYZE HAZARDS ASSOCIATED WITH WORK

Environment, safety and health hazards associated with the Scope of Work are identified through Activity Hazard Assessment (AHA) methodology, which is an integral part of Integrated Safety Management. EODT will develop AHAs at the activity/task level to provide a detailed, job specific hazard assessment that addresses each step of the work process, the hazards involved (including those introduced by the methods used to accomplish the work), and the controls for those hazards. Multiple AHAs will be developed for complex work, or when it becomes necessary to distinguish between different phases of work that may involve different hazards and/or controls.

The process begins with a review of the scope of work and associated subtasks, the physical location where work is to be performed, equipment/ materials required to perform the subtasks,

associated chemical, physical and biological stressors, work procedures, historic site characterization data, interfacing organizations, industrial hygiene and radiation survey results, process knowledge, safety records, etc. Analysis of each subtask is performed to identify associated safety and environmental hazards and compliance issues. The Project Manager and the ESHM are the lead individuals for identifying, quantifying and documenting potential hazards associated with the scope of work to be performed. A graded approach is used to determine the threshold for depth analysis and rigor of control required based on the scope and complexity of each task.

EODT systematically identifies any and all hazards in its work activities to analyze them and develop graded, effective controls to protect employees and their well-being, the community and the environment.

3.4 DEVELOP AND IMPLEMENT HAZARD CONTROLS

EODT shall use controls to protect people, property, and the environment form hazards and to reduce the risk(s) associated with an activity to acceptable levels. Controls will also be established to prevent any significant new hazards from being introduced into ongoing work.
Controls may be either engineered (e.g., barriers) or administrative in nature. Depending on the situation, both engineering and administrative controls may be necessary to afford an adequate level of protection from the work hazards. The preferred hierarchy for effectively controlling hazards is as follows:

1. Eliminate the hazard by revising the design of the activity.
2. Reduce the risk through redesign or re-engineering of the activity.
3. Provide engineering controls.
4. Provide administrative controls, such as:
    a. Warning devices (e.g., horns, flashing lights, and signs).
    b. Personal protective equipment (e.g., safety glasses, lab coats, gloves, and safety shoes)
    c. Training, safety plans, AHAs and procedures
    d. Work permits
    e. Design and /or design changes.
    f. Signs and postings
    g. Medical certification (e.g., respirator approval, enrollment in the substance-specific medical program, bioassays, Commercial Driver's License, etc.)

As appropriate, subject-matters experts, site ES&H professionals and engineers will be utilized as required to develop appropriate work controls. The ES&H subject-matter experts will:

- Ensure management is aware of any newly required controls and the requirements that have yet to be incorporated into the ES&H plan.
- Identify when a proposed work hazard falls outside from the set.
- Work with the Client's organization to find or develop appropriate standards when the hazards are not covered by regulatory requirements.
- Identify controls appropriate for meeting the requirements.

The Project Manager is responsible for ensuring that applicable controls are developed and implemented for each hazard associated with the work activity. The controls are tailored to fit specific operations. This tailoring is achieved through the work plan development process.

EODT incorporates work controls in project specific ES&H plans and procedures, SOPs and AHAs. In cases where hazard controls are not specified in the site-specific ES&H Plan associated procedures, it is the responsibility of the work supervisor to immediately halt work until appropriate controls that are required to protect the health and safety of workers, the public, and the environment are developed and appropriately documented and implemented.

Before work begins or when there are significant changes in ongoing work, EODT will ensure that hazards are reviewed and controls implemented. EODT uses the following process to perform work implementing mitigates, standards and requirements.

Reviews Confirming Readiness. This work ensures that the task of defining the scope of work, analyzing the hazards, and identifying and establishing controls has been properly performed. As part of the review process, workers will be provided an opportunity to comment on any proposed operating procedures and AHAs.

Pre-job Breifs. EODT conducts these Briefs to ensure that controls specified in the ES&H Plan, AHAs, SOPs, SESHP and other work control documents are in place and ready to be used. The rigor of the Pre-job Briefs depends on the complexity and hazards involved and ranges form very informal (documented, quick mental review) for commonly accepted activities to formal (documented, with multiple reviewers) for complex or higher risk activities. Using the Pre-job Brief, EODT shall ensure that the following conditions have been met:

1. The management chain has been documented. This chain includes the task

supervisor up to the Project Manager. The Project Manager authorizing the work activity and the individual supervising the work activity must be identified and named.

2. The hazards associated with the work activity have been identified and communicated to workers involved in the activity.
3. Appropriate controls are in place and applicable safety requirements have been met.
4. A pre-job briefing has been conducted to rollout applicable work requirements and controls.
5. Workers understand who is responsible for managing the work activities, are appropriately trained, and understand the work activity and its controls.
6. Adequate funds, personnel, and time exist to conduct work safely – from work initiation through termination and clean up.
7. Hardware and tools are available, the facility is operable, and the equipment is ready for operation.
8. Required safety systems are correctly installed and tested.
9. ES&H documentation is completed, maintenance of safety systems is scheduled, and permits are issued.
10. Personnel possess the necessary skills, knowledge, abilities, and physical capabilities to carry out their assigned tasks. They must know their responsibilities and be trained, qualified, or certified (if needed) for the operation.
11. Identified hazards and designated controls are Cleary communicated to the workers conducting the activity.
12. Applicable facility requirements pertaining to the work have been met, and the EODT team agrees that the work may be performed in the facility.

Work Authorization. Work is only started after the above items that have impact on safety, health and the environment have been corrected and approval to start is provided by EODT Management.

3.5 PERFORMING WORK WITHIN CONTROLS

All EODT project activities are to be performed in accordance with applicable controls (those specified as part of the work authorization and those in the ES&H Plan, AHAs, and SOPs). Embracing the proper safety attitude is of particular importance when performing work. Each

worker, his/her immediate supervisor, and others in the management chain are responsible for adhering to the safety controls established for the activity and for ensuring that any incident or near miss is properly reported. Both the Project Manager and the task supervisor are responsible for monitoring the work activity to ensure that:

1. The AHAs, SOPs, ES&H Plan, SESHP requirements are met
2. The work being performed is within the scope of what was authorized and the controls remain adequate.
3. Any changes in personnel, procedures, equipment, and/or facilities are recognized and appropriately addressed.

In the event it is determined that the work activity's operating limits and/or controls are not being followed, and common sense indicates people, property, or the environment are at risk for being hurt or damaged, EODT will suspend work until appropriate remedial actions are taken. In addition, each worker is responsible for bringing to the attention of his/her immediate supervisor opportunities for improving the work governing procedure(s). Each worker is empowered to suspend or stop work if there is an unsafe or unapproved condition without fear of repercussion.

Routine surveillance and work monitoring (e.g., walkthroughs), documented daily and weekly inspections will be performed by EODT to determine adherence to work requirements. EODT shall conduct incident investigations for significant incidents, which result in or could potentially result in an injury/illness, act of noncompliance, property damage, un-permitted releases or spills to the environment, near misses and regulatory non-compliance issues.

3.6 PROVIDE FEEDBACK ON ADEQUACY OF CONTROLS AND CONTINUE TO IMPROVE SAFETY

It is the policy of EODT that key ES&H information is communicated at appropriate levels in the company and that this information is used as a basis to continuously improve company performance and effectiveness. EODT uses a number of methods to collect and manage the feedback information such as pre-job and post-job briefings, weekly safety meetings, plan of the day meetings and EODT's open door policy. EODT will additionally actively seek employee feedback and participation in the development and review of AHAs, SOPs, ES&H Plan, SESHP, and daily operations. EODT strives to sustain continuous improvement in all areas of our operations.

Corrective actions will be tracked through completion using a EODT QA approved tracking and verification system. Status updates will be provided to the site Management to ensure timely

completion of corrective measures. To sustain continuous improvement, EODT will develop and maintain a culture where employees will feel empowered to provide feedback without fear of retribution.

4.0 ORGANIZATION AND RESPONSIBILITIES

4.1 SAFETY AND HEALTH ORGANIZATION AND RESPONSIBILITIES

The ES&H management of project activities is accomplished through the organizational structure shown in Figure 4-1. Site ES&H support is maintained independent from Site Management of Operations. The ES&H organizational structure and the project specific ES&H responsibilities will be specified in both the site-specific WP and SESHP. The EODT personnel with specific ES&H responsibilities are identified in the following subsections.

4.2 PRESIDENT

The EODT President assumes ultimate responsibility for the ES&H Program. The President assigns ES&H duties to and holds Direct Reports accountable for performance of their ES&H responsibilities. The President is the Chair of the EODT ES&H Committee that meets regularly to review ES&H performance. The President meets regularly with the Environmental, Safety and Health Manager (ESHM) in order to review ES&H performance and address issues. The President requires that the ESHM prepare a monthly ES&H Performance Report and then the President reviews this Performance Report with Direct Reports. The President assigns additional ES&H responsibilities to Direct Reports and staff as needed.

4.3 VICE PRESIDENT OPERATIONS

The Vice President Operations (VPO), is the head of the Projects Department, and is responsible for providing general oversight of ES&H administration matters pertaining to implementing safe projects. In this role, the VPO will:

1. Report to the EODT President for all departmental matters.
2. Approve budgets that include allocation of ES&H resources.
3. Assist in preparation and review of SESHP's and other ES&H procedures/related to safe project performance.
4. Coordinate and allocate departmental personnel and resources.
5. If EOD-qualified, the VPO has the responsibility for all UXO/OE safety-related matters, in the event that the Environmental Safety and Health Manager (ESHM) is not EOD-qualified. In the event the VPO is not EOD-qualified, he will either refer all UXO/OE safety related matters to the next individual in the chain-of-command who is EOD-qualified, or will have an EOD-qualified member as part of the Department.

4.4 ENVIRONMENTAL, SAFETY AND HEALTH MANAGER

The Environmental, Safety and Health Manager (ESHM) has the overall responsibility for the development, implementation, and review of the EODT ESHP, and for ensuring company compliance with ES&H regulations. The ESHM will:

1. Prepare, and annually review, the written CESHP.
2. Maintain EODT's regulatory compliance.
3. Advise the VPO of any safety- or health-related problems.
4. Develop SESHP's in coordination with the VPO or delegated Project Manager (PM).
5. Conduct final approval of all SESHP's.
6. Evaluate and authorize any changes in the SESHP.
7. Coordinate with the SSHO in the field implementation of the SESHP.
8. Conduct on-site ES&H audits/inspections.
9. Maintain a close liaison with the Client's ES&H training.
10. Implement the New Technology Program.
11. Refer all UXO/OE safety-related matters to the VPO, the next individual in the chain-of-command who is EOD-qualified, or the EOD-qualified Department member, if the ESHM is not EOD-qualified.

4.5 PROJECT MANAGER

EODT PM's are responsible for all work activities at their sites. As such, they are responsible for ensuring a safe and healthy work environment, and will also ensure that adequate financial, manpower, equipment, and procedural support are provided to implement on-site work. The PM will review all project plans, subcontractor requirements, and training.

4.6 SITE MANAGER/

The Site Manager directs all activities on site. The Site Manager ensures that applicable ESH procedures and requirements are met. The Site Manager assigns work to qualified personnel and ensures the required training is completed prior to start of work.

One UXO related work the Site Manager or qualified designee serves as the Senior UXO Supervisor (SUXOS). The SUXOS or qualified designee must be on site during UXO operations.

4.7 SITE SAFETY AND HEALTH OFFICER

The Site Safety and Health Officer (SSHO), who is selected by the ESHM and approved by the PM, reports directly to the ESHM and functionally to the Site Manager. The SSHO is responsible for the administration and implementation of all ES&H matters at the site. The program detailing the SSHO's duties and responsibilities is found in SOP 127. While on site, the SSHO will work directly with the Site Manager to coordinate all matters related to ES&H. On UXO Projects the SSHO typically assumes site responsibility for site UXO safety oversight and is also referred to as the UXO Safety Officer (UXOSO). The SSHO has the authority to:

1. Cease work, remove personnel from the hazardous area if the safety or health of personnel, other site personnel, or third parties is jeopardized by work activities, and notify the ESHM and the client.
2. Conduct/participate in daily pre/post job briefings and weekly safety meetings.
3. Provide work-specific training for new employees and orientations for visitors.
4. Implement and evaluate applicable work specific ES&H Plan.
5. Ensure compliance with client work control process.
6. Ensure compliance with client warning systems (including evacuation alarms, accountability rosters, assembly points, etc.).
7. Participate in client's plan-of-the-day meetings.
8. Ensure that proper chemical and safety postings are in place, are legible, and are removed when the project is complete.
9. Establish and maintain the hazard communication program (including Material Safety Data Sheets, training, etc.).
10. Continuously evaluate the site for any hazards not identified in the JHA's and initiate safety measures required to protect personnel, the public and the environment and revise documents accordingly.
11. Ensure that all wastes generated are managed in compliance with applicable State, Federal, or Local laws and work plan requirements.
12. Maintain first aid and OSHA 300 logs, report accidents and injuries to the ESHM and the client, and conduct accident/incident investigations as required, including the completion and submission of appropriate forms to the ESHM and the client.
13. Ensure that the Site map includes safety information such as locations of fire extinguishers and eye was stations, and ensure that the first-aid kits are kept current as appropriate.
14. Ensure thermo luminescent dosimeters (TLDs) are exchanged by the client as required (i.e., quarterly for radiological workers and monthly for declared pregnant workers).
15. Coordinate with client's medical services or local emergency responder organizations, if available, to establish provided services and verify that phone numbers, addresses, and contacts are current and accurate.
16. Interface with client's safety personnel to resolve safety issues and conduct periodic inspections and program review.
17. Ensure safety requirements and goals have been set and communicated to workers.

18. Attend progress meetings, as required and scheduled.
19. Represent EODT in incident investigations and/or critiques
20. Ensure that the EODT Team Review Form is completed by all site personnel (see Figure 26-1).
21. Complete the Task Hazard/PPE Checklist for tasks not addressed in the SESHP and obtain ESHM approval.
22. Require and ensure that all site personnel meet the training and medical requirements specified in the SESHP.

4.8 UXO SAFETY OFFICER

The UXO Safety Officer (UXOSO) has the overall site responsibility for the safety of UXO operations. UXOSO review and approval is required prior to all onsite UXO operations. Depending on the project complexity and personnel qualifications, the UXOSO may also assume the duties of SSHO if approved by the ESHM.

4.9 FIRST AID/CPR ATTENDANTS

Two First Aid/CPR certified attendants will be assigned to each work site. Individuals assigned to this position shall have a current certification from an accredited organization such as the American Red Cross. This position is not a full time dedicated slot, and is normally filled by the SSHO and one of the UXO Specialists.

4.10 EMERGENCY MEDICAL TECHNICIAN

At times EODT will require the services of an Emergency Medical Technician (EMT) to provide advanced medical support in the event of an on-site injury. Due to the nature of the hazards encountered, and the remoteness of the sites where EODT personnel typically perform project operations, severe injuries may occur and immediate medical attention may not be readily accessible. In these situations, or if other site hazards warrant, EODT will make arrangements for stand-by air ambulance transport, and will include an EMT as a member of the site team. The EMT will be responsible for maintaining all advanced medical support supplies, and will perform and direct the first aid and advanced medical support provided to injured personnel.

4.11 TEAM ASSIGNMENTS

In every instance, regardless of the size of the team, an SSHO will be assigned. The assignment may be either a full time position or an additional duty, depending on the circumstances. Regardless, the individual filling the position is responsible for safety on site and will conduct training and safety briefs involving site-specific hazards. Other positions such as UXO Supervisors, Team Leaders, UXO Specialists, or UXO Assistants, will be assigned as needed to most effectively and efficiently meet the SOW requirements.

4.11.1 UXO Site Visit Team

For UXO Work the Site Visit team will consist of a minimum of two UXO-qualified personnel. One will act as the EODT Team Leader, with the second acting as the SSHO. In some instances it may be necessary to send one UXO-qualified individual on a site visit, in which case that single individual may be dual-rated as the Team Leader and the SSHO. This is the only time the same person may act as the UXO Supervisor and the SSHO.

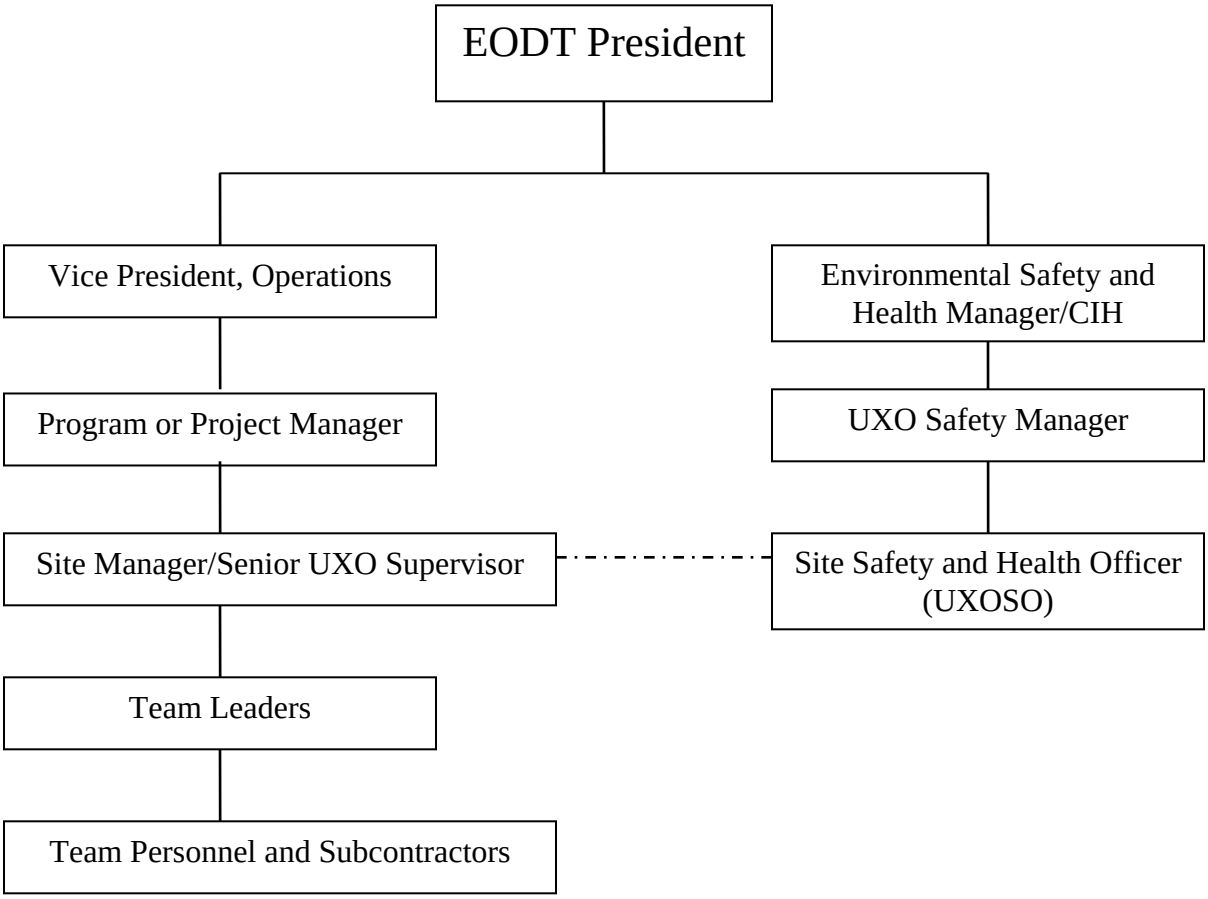
4.11.2 UXO Remediation Team

This team will have a minimum of two UXO-qualified personnel assigned. One will act as the UXO Supervisor, and one as the SSHO and Quality Control Specialist (QCS). EODT considers the two-man team the smallest unit which should be sent to the field.

4.11.3 Mobilization Training Team

Mobilization training will be conducted on location, covering the topics listed in the SSHO Program in SOP 127 and/or the SESHP. This training will be given to **all** on-site personnel, to include subcontractor and client personnel. Part of this training will be the review of the SESHP and WP and completion of the EODT Team Review Form (see Figure 26-1).

FIGURE 4-1: EODT ENVIRONMENTAL, SAFETY AND HEALTH ORGANIZATIONAL STRUCTURE



5.0 COMPREHENSIVE WORK PLAN

5.1 INTRODUCTION

EODT develops Work Plans commensurate with the nature of planned operations. Work Plan complexity ranges from brief plans that describe Project Management allowing for maximum flexibility to Comprehensive Work Plans that describe the work in great detail. Comprehensive Work Plans and Site-specific Environmental, Safety, and Health Plans (SESHP) are developed for hazardous waste site related activities such as MMR support services. Comprehensive Work Plans and SESHP outline and detail the operations to be conducted at the project site. Comprehensive Work Plans identify site-specific tasks, equipment, personnel, logistics, and objectives of field activities. As required during SESHP development, task hazard assessments will be conducted for all site operations. Additional detail on the major activities described in many Comprehensive Work Plans is described in section 5.2.

5.2 ANTICIPATED HAZARDOUS WASTE SITE ACTIVITIES

The general project activities conducted by EODT personnel may consist of site characterization, remedial investigations, and removal actions. Further information related to these general activities is presented below in Paragraphs 5.2.1 through 5.2.3. Actual site-specific descriptions of project tasks will be outlined in detail within each site-specific WP.

5.2.1 Site Characterization

Site characterization is the process of gathering information related to the chemical and physical hazards which could be encountered during site activities. Site characterization may include any or all of the following activities:

1. Inspections
2. Magnetometer and geophysical surveys
3. Location and identification of UXO/OE, RCWM, and HTRW
4. Segregation and certification of OE
5. Air, soil, and water sampling
6. Documentation reviews

5.2.2 Remedial Investigation Studies

Remedial investigation studies are utilized to assist in discerning the level and type of contamination present at a site, and if whether OE or HTRW removal actions will be needed to ensure protection of the general public and environment. The conduct of a remedial investigation may include the assessment of OE, RCWM, and HTRW contaminants, and may involve:

1. Soil gas surveys

2. Surface soil and water sampling
3. Monitoring well installation
4. Deep soil and ground water sampling
5. Vegetation sampling
6. Geophysical surveying, anomaly mapping, and anomaly sampling

5.2.3 Removal Actions

Removal actions involve the location, assessment, remediation, and disposal of hazardous environmental contaminants, including OE, RCWM, and HTRW. Remedial actions may include any or all of the following activities:

1. Handling of drums and other containers
2. Location, identification, removal, transportation, and destruction of UXO
3. Excavation and trenching
4. Removal of RCWM and HTRW
5. Removal of RCWM and HTRW contaminated soils and materials
6. Removal and disposal of soils and materials contaminated with explosive compounds
7. OE segregation and certification

6.0 SITE ENVIRONMETAL SAFETY AND HEALTH PLANS

6.1 GENERAL REQUIREMENTS

A Site-specific Environmental, Safety, and Health Plan (SESHP) shall be written for all projects where EODT personnel will, or may, be exposed to safety or health hazards at the following locations:

1. Uncontrolled hazardous waste sites where clean-up operations are conducted either voluntarily or as required by federal, state, or local government bodies [including EPA National Priority List (NPL) sites, state priority list sites, sites recommended for the EPA NPL, and initial investigations on government identified sites]
2. Sites covered by the Resource Conservation and Recovery Act, where corrective actions are conducted

For project sites which do not meet this criteria, an Accident Prevention Plan (APP) may be prepared where additional guidance over and above the CESHP and SOPs is needed to ensure safe operations. The APP may include, but not be limited to, the following sections:

1. Approval Sheet
2. Background Information
3. Statement of ESH Philosophy
4. Responsibilities and Lines of Authority
5. Subcontractors and Suppliers
6. Training
7. Safety and Health Inspections
8. Safety and Health Expectations, Incentive, Programs, and Compliance
9. Accident Reporting
10. Medical Support
11. Personal Protective Equipment
12. Required Plans and SOPs
13. Site Specific Hazards and Controls

The SESHP is to be considered a living document, intended to grow and change to accommodate changes in site conditions and tasks, and the augmentation of site information accumulated through the on-site implementation of site operations. Proposed changes in the SESHP approved by the ESHM will be submitted to the client for their approval. The SESHP will be written to address the ES&H hazards anticipated for each phase of site operation, and will also include and reference CESHP requirements and procedures needed to protect site personnel, the

environment, and the public. The SESHP will specify the procedures used for onsite employees with respect to protection against hazardous work practices and compliance with contractual ES&H requirements. The SESHP will specify how ES&H requirements flow down to EODT employees and sub-tier subcontractors.

The SESHP and hazardous waste Environmental Safety and Health Plan (ESHP) must be maintained on site during all site operations, and the SESHP will be prepared using available site characterization data. The SESHP will address the ES&H hazards associated with each phase of site operations, including the methods and procedures as delineated in the CESHP for employee protection. All EODT and subcontractor personnel working on site will be required to read, understand, and comply with the provisions of the SESHP and sign the EODT Team Review Form (see Figure 26-1). Additionally, the SESHP will be used by the SSHO for conducting pre-entry briefings for all EODT and subcontractor personnel. Site PM's and SSHO's are required to read and have a working knowledge of the CESHP and associated SOP's.

To ensure the effectiveness of the SESHP, site inspections and audits will be conducted by the SSHO. Any on-site deficiencies detected will be reported to the Site Supervisor and PM, and will be corrected as requested by the SSHO. If there is a discrepancy between the requirements of the SESHP and the actual conduct of site operations, the ESHM, in conjunction with the SSHO and PM, will resolve the discrepancy and, if needed, the ESHM will revise the SESHP to include any new or amended ES&H requirements.

6.2 SESHP CONTENTS

The actual contents of the SESHP may vary significantly, based upon client requirements and variations in the nature, type, and concentration of project-specific contaminants and hazards. However, according to OSHA, as stipulated in 29 CFR 1910.120(b)(4), there are minimum elements which shall be addressed in each SESHP. At a minimum, each SESHP will contain the following:

1. A brief description and history of the site
2. The site organizational chain-of-command, including responsibilities of persons involved with ES&H on the site, and an organization flow chart
3. A summation of the chemical and physical hazards identified during the site characterization
4. An ES&H hazard analysis and risk assessment for each task and operation found in the site-specific SESHP, for which EODT will utilize the Certification of Task Hazard Analysis form (see Figure 26-2);
5. Reference in the SESHP to appropriate SOP's found in the CESHP protective measures

6. General worker and site-specific training requirements
7. General and site-specific medical surveillance requirements
8. Site control measures
9. A Site Monitoring Plan outlining the frequency and types of air, personnel, and environmental monitoring techniques; this Plan will also include the instruments to be used and their maintenance and calibration schedules
10. A Personal Protective Equipment (PPE) Plan outlining the PPE to be used during each operation or task
11. A Respiratory Protection Plan outlining the types of respirators to be used during each task or operation
12. A Site Decontamination Plan which contains procedures for decontamination of personnel and equipment
13. An Emergency and Spill Response Plan
14. Confined space entry and excavation procedures (if applicable)
15. Any other Plans/Programs/SOP's related to site operations, task, or hazards.

6.3 SUPPLEMENTAL PLANS

Supplemental plans shall be developed to support work and/or meet regulatory requirements. Supplemental Plans that may be required may include but are not limited to the following:

6.3.1 Lead Compliance Plan

When the initial determination is made that any personnel may be exposed to lead at or above the OSHA action level a written lead compliance plans shall be developed and implemented in accordance with 1926.62(e)(2)(ii). The Plan shall include at least the following:

1. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;
2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
3. A report of the technology considered in meeting the PEL;
4. Air monitoring data which documents the source of lead emissions;
5. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;

6. A work practice program which includes items required under paragraphs (g), (h) and (i) of this section and incorporates other relevant work practices such as those specified in paragraph (e)(5) of this section;
7. An administrative control schedule required by paragraph (e)(4) of this section, if applicable;
8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and with respect to responsibility for compliance with this section as set-forth in 1926.16.
9. Other relevant information.

The compliance program shall provide for frequent and regular inspections of job sites, materials, and equipment to be made by a competent person. Written programs shall be submitted upon request to any affected employee or authorized employee representatives, to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary and the Director. Written programs will be revised and updated at least annually to reflect the current status of the program.

6.3.2 Beryllium Compliance Plan

When the determination is made that any personnel may be exposed to beryllium a written Beryllium Plan shall be developed and implemented in accordance with the Department of Energy (DOE) Beryllium Standard, 10 CFR 850.

Personal protective equipment (PPE) including respirators, disposable coveralls and gloves shall be used as a minimum during potential contact with or movement of beryllium contaminated materials. The continued use of PPE will be evaluated by the ESHM following completion of an exposure assessment.

The evaluation of the beryllium exposures shall be accomplished by the collection of personal air samples collected in worker breathing zones in accordance with 10 CFR 850. If exposures are at or above the action level, provisions of 10 CFR 850 will be met to include but not be limited to exposure monitoring, posting, hygiene facilities, training, and medical surveillance. The results of the evaluation to include air monitoring will be made available to the Client.

Personnel under the provisions of a Beryllium Plan will be trained as a minimum in Beryllium Awareness in accordance with 10 CFR 850.

Beryllium contaminated materials will be properly containerized, labeled, and stored, including PPE, from the work area by the end of each shift, and properly dispose of at the end of the Project. Swipe clearance sampling may be conducted after beryllium contaminated materials are removed.

7.0 SITE CHARACTERIZATION AND HAZARD ANALYSIS

7.1 GENERAL REQUIREMENTS

Prior to development of the Work Plan and as applicable the SESHP available archival data will be searched and analyzed to characterize the potential chemical, physical, and biological hazards that may be encountered during site activities. This preliminary evaluation is the first step in the site characterization process, which will essentially continue throughout the project. Whenever possible, EODT personnel will also request a site visit to perform a site reconnaissance, gather further archival data, and conduct interviews of persons that may have additional information relative to the site and past activities. This preliminary evaluation will place emphasis on 1) the identification of potential Immediately Dangerous to Life and Health (IDLH) conditions that may be encountered during initial site entry/operations, 2) obtaining employee feedback, and 3) identifying lessons learned. The data from the preliminary evaluation will be used to determine levels of PPE for the initial site activities. Modifications to the site characterization data will be made as further information becomes available.

7.2 ELEMENTS OF THE SITE CHARACTERIZATION AND HAZARD ANALYSIS

Since the information collected during the initial site characterization and hazard analysis will be used to select appropriate PPE and control procedures, site characterization will, to the extent possible, include:

1. Location and approximate size of the site
2. Past, current, and future land usage
3. A description of the site terrain, vegetation, topography, and accessibility
4. Physical hazards involved or expected during site activities
5. Pathways of hazardous substance dispersion/exposure
6. Description and duration of planned site activities
7. Identification through sampling of chemical, physical, and/or biological hazards germane to the site
8. Hazardous substances known or expected at the site, including their chemical, physical, and toxicological properties
9. Emergency response status and capabilities
10. Employee feedback and lessons learned

7.3 PPE DURING INITIAL SITE ENTRY/CHARACTERIZATION

PPE for initial site entry will be selected based upon the information obtained during the preliminary evaluation. The level of PPE must be able to protect workers from exposures above the permissible exposure limit (PEL) or other consensus exposure limits and protect against either known or suspected site hazards. If the preliminary evaluation does not provide adequate information to allow for selection of appropriate PPE, a level of PPE equivalent to Level B (see

SOP 123) will be used, and direct reading instruments will be utilized to detect potential IDLH conditions. If respiratory protection is warranted by the preliminary investigation, and sufficient information exists which allows for the selection and use of an air purifying respirator (APR), an additional requirement will be that personnel carry an escape self-contained breathing apparatus (SCBA) of at least five (5) minutes duration. This escape SCBA is required in the event that monitoring instruments identify an IDLH condition for which the APR cannot provide adequate protection. In this instance, the escape SCBA would be used.

7.4 MONITORING DURING INITIAL SITE ENTRY/CHARACTERIZATION

Dependent upon the amount and type of information obtained in the preliminary evaluation, monitoring of chemical and physical hazards may be required. If the archival data indicates the potential for personnel exposure to chemical hazards during initial site entry/characterization, monitoring for IDLH and other conditions that could cause serious injury or illness will be conducted. Based upon available data, monitoring will be conducted utilizing the following:

1. Direct reading instruments will be used when possible.
2. If the potential exists, monitoring for ionizing radiation will be conducted.
3. Visual observations will be made for signs of actual or potential IDLH or other hazardous conditions.

Once the presence, identification, and potential concentrations are monitored, changes to the level and type of PPE being used may be required. This determination will be made by the ESHM and, if necessary, the CTHA forms will be updated. Any changes in the SESHP will be presented by the SSHO to the site personnel during a site briefing to be held prior to implementation of the changes.

8.0 TASK-SPECIFIC HAZARD ANALYSIS

8.1 GENERAL REQUIREMENTS

Prior to initiation of on-site activities, the CTHA form will be completed for each site task or group of related tasks found in the WP. This form will be completed by the ESHM and incorporated into the SESHP, as applicable. This form will be used for outlining the chemical and physical hazards/risks associated with performing a given task, and will be used by the SSHO during the site briefings to inform the site workers of the ES&H hazards associated with each task. The CTHA form will also be used to inform personnel of the appropriate control measures, work practices, and PPE to be used in the mitigation of the hazards. The CTHA forms will be presented as applicable at pre and post job briefings, daily pre-task hazard and analysis briefings and weekly safety and health meetings. Emphasis will be placed on obtaining employee feedback and identifying lessons learned.

8.2 CHANGES IN CTHA FORMS

If new site tasks are added, the SSHO will complete a blank CTHA form for the new task. The ESHM will review and approve the additional forms. If the hazards for a given task change during site activities, the SSHO will amend the applicable CTHA form and submit it to the ESHM for review and approval.

8.3 EXPECTED SITE HAZARDS

It is the experience of EODT that site conditions, activities, and hazards vary significantly from site to site. This is due in part to the diversity, and often remoteness, of the EODT project sites. Task hazards to be expected are listed in the paragraphs presented below:

8.3.1 Site Preparation and Set-up

Site preparation and set-up involves those tasks necessary for establishing a center of operations, and typically involves the establishment of an area for an office trailer, vehicle parking, and material storage. This phase of operation may include potentially hazardous tasks such as the use of hand tools, hazardous chemicals, vegetation removal, UXO disposal, or handling of contaminated materials. Other hazards associated with site preparation may include:

1. Vehicle traffic
2. Temperature extremes
3. Fire and/or explosion
4. Potential exposure to corrosive and toxic chemicals, and/or biological environments
5. Noise
6. Safety hazards associated with heavy equipment and mechanical tools
7. Encountering utilities such as electrical conduits, overhead lines, etc.

8. Biological hazards such as snakes, insects, and poisonous plants
9. Slips, trips, and falls
10. Falling trees
11. Lifting and pinch hazards

8.3.2 Environmental Monitoring

Personnel performing tasks such as well and soil sampling or other environmental monitoring may require special precautions. The Work Plan as applicable SESHP will discuss site-specific requirements; however, some examples of these activities, and the hazards associated with them, are given below.

8.3.2.1 Well Monitoring

Wells may be contaminated with toxic, flammable, and/or biological agents. These contaminants may create a hazardous environment within the head space of the well and/or the general work area. These materials may also present a hazard due to contact contamination with the skin.

8.3.2.2 Soil Sampling

Drilling/boring in soil potentially contaminated with hazardous chemicals may cause these chemicals to be liberated into the air during soil sampling activities. Drilling/boring activities may include hand-held equipment hazards; heavy equipment and noise hazards; dust, heat, or cold stress; biological hazards; and lifting hazards.

8.3.3 Chemical Handling

Chemicals brought on site are used for activities such as decontaminating surfaces and equipment, killing weeds or insects, waste treatment, and equipment maintenance and operation. Note: All chemicals brought on site must have an accompanying MSDS. Hazards associated with these chemicals may include the following:

1. Chemical burn or irritation
2. Toxic airborne or skin exposure
3. Fire/explosion

8.3.4 Drum Excavation/Sampling

Due to the nature of past UXO disposal operations, surface or buried drums or containers may exist on site. These containers may be encountered during drilling operations and/or excavation tasks. When encountered, each container must be inspected, assessed, stabilized, segregated if needed, and, eventually, sampled (see SOP 105). Potential hazards involved with drum/container handling include the following:

1. Leaking materials
2. Temperature extremes
3. Physical exertion
4. Fire/explosion
5. Exposure to toxic, corrosive, and/or flammable chemicals
6. Spillage of materials with risk of migration to uncontrolled areas
7. Lifting and pinch hazards
8. Biological hazards
9. UXO/OE
10. Slips, trips, and falls

8.3.5 Soil Excavation/Trenching

SOP 107 of this CESHP is the EODT Excavation and Trenching Program, which describes in detail the procedures to be followed during excavation and trenching activities. Excavation of soil for the purpose of UXO/RCWM/HTRW investigation/remediation may present the following hazards:

1. Heavy equipment
2. Slips, trips, and falls
3. Fire/explosion
4. Temperature extremes
5. Uncovering and handling buried containers and contaminated soils
6. Exposure to toxic agents
7. Cave-in/engulfment
8. Confined space entry
9. Noise exposure
10. UXO/OE

Additional requirements specific to UXO excavations are presented in SOP 120C.

8.3.6 Confined Space Entry

SOP 103 of the CESHP is the EODT Confined Space Entry Program, which describes in detail the procedures to be followed by all personnel when conducting confined space operations. Confined spaces, such as trenches, ditches, holes, culverts, structures, and tanks, may present the following hazards:

1. Oxygen deficient/rich atmospheres
2. Exposure to toxic agents
3. Cave-in/engulfment
4. Heat or cold stress

5. Noise
6. Fire/explosion

8.3.7 Investigation and Remediation of UXO/OE

The investigation and remediation of UXO/OE presents significant hazards to the personnel conducting these tasks (see SOPs 120A, B, C, D, E). Investigating UXO/OE typically involves locating the item with a magnetometer, mechanically excavating to within one foot of the item, hand digging down to the item, inspecting the item to determine its nature and condition, and determining the appropriate measures to remediate and dispose of the item. The hazards associated with these tasks include:

1. Operation of earth moving equipment
2. Use of hand tools
3. Explosion/fire
4. Slips, trips, and falls
5. Temperature extremes
6. Trenches and excavations
7. Exposure to toxic agents
8. Cave-in/engulfment
9. Confined space entry
10. Noise exposure

8.3.8 Demolition of UXO

Once UXO/OE have been identified, each item is inspected to determine if it is explosively configured, fuzed, and/or safe to move to a holding or disposal area. Items which are safe to move are typically moved to a central storage/demolition area, and are rendered safe through the use of explosive charges during planned demolition range operations. If the item is not safe to move, it must be remediated through blow-in-place (BIP) procedures. Procedures for the explosive demolition of UXO/OE are outlined in detail in SOP 120D-E. The hazards associated with demolition operations include:

1. Operation of earth moving equipment
2. Handling and mixing demolition materials
3. Use of hand tools
4. Explosion/fire
5. Slips, trips, and falls
6. Temperature extremes
7. Trenches and excavations
8. Cave-in/engulfment
9. “Fly rock” and fragmentation

10. Confined space entry
11. Noise exposure

9.0 ENVIRONMENTAL REQUIREMENTS

9.1 INTRODUCTION

Environmental Compliance is the responsibility of all EODT employees and subcontractors. During the preparation of the proposal and pre-mobilization submittals, it is the responsibility of the manager and the technical area(s) to determine which environmental regulation will apply to the proposed work, and to develop the necessary actions to respond to those requirements. The Regulatory Technical Area can assist in determining which regulations must be considered for the project.

9.2 WASTE MANAGEMENT

Due to the nature of our work, EODT must be prepared to manage wastes incidental to our work. These wastes may include explosives, toxic (both RCRA and TSCA) materials, and radioactive wastes. As of the time of this writing (December 2005) EODT does not have an EPA ID number, or a Radioactive Materials license. If these materials must be managed by EODT in the course of our work, close coordination is required between the project site, management, and the Regulatory Technical Area. Generally, we are able to utilize our clients' licenses for these materials under their program.

9.3 WASTEWATER

In most states, a stormwater NPDES permit is required for work sites where more than 1 acre of soil is disturbed. This requirement may be more stringent in certain states. Given that the requirements for stormwater NPDES permits vary, it is often most cost-effective to subcontract the preparation of this permit. The Engineering Technical Area can assist with the preparation of a subcontract for these services.

9.4 AIR QUALITY

EODT understands that Air Quality is an important consideration for our clients and other stakeholders in the vicinity of our work. Generally, no air quality permits are required for our projects; however, this should be verified by the Regulatory Technical Area on a project-by-project basis. Dust control is often required during earthmoving operations, especially during sifting, and potentially during unintentional detonations. The use of a water spray is effective in controlling dust; however, runoff from the water spray may cause NPDES issues.

9.5 DRINKING WATER AND SANITATION

Sanitary drinking water and portable toilets are necessary for all field projects. One portable toilet must be provided for each sex present onsite. Portable toilets and washing facilities may be rented locally at our project sites. Drinking water may be procured from a service, or may be bought in single-service bottles at local stores. If bulk water is procured, sanitary single use cups

must also be provided. The purchase of water, depending on the project, may not be an allowable direct project charge. Management should work with accounting to determine the proper direct or indirect charge code to purchase drinking water.

9.6 SPILL RESPONSE

In the event of an unintentional spill of hazardous chemicals, a fast response is necessary to minimize damage from the spill. If a spill occurs, the first thing to do is to stop the spill, if it is safe to do so. Next, warn others in the area of the potential hazard. Notify the home office and any other required entities of the spill. If spill response is provided in the project workplan, and there are sufficient resources and protective equipment to clean up the spill, it should be done in an expeditious manner. Wastes must be captured. Contact the regulatory and engineering technical areas to determine disposal requirements for the captured material.

All project sites, as well as the home office, should complete periodic inventories of hazardous materials. Additionally, periodic audits of this materials' use may help to identify hidden spills.

9.7 POLLUTION PREVENTION/WASTE MINIMIZATION

EODT practices pollution prevention and waste minimization wherever possible to limit cross contamination, prevent spills, and expedite waste management.

Our project sites should practice waste segregation so that the different waste streams can be managed in the most cost effective manner possible. Additionally, we perform waste minimization by purchasing chemicals in the quantities expected to be used, and will properly store materials to avoid waste and spoilage.

9.8 ENDANGERED SPECIES/CULTURAL RESOURCES

The Regulatory Technical Area can assist management in the development of mitigation techniques for endangered species and cultural resources which may be present at a project site. Mitigation techniques which have been used successfully on previous projects include instruction to the field crew on endangered species habitat and avoidance. Other techniques include hiring cultural resource specialists to determine high probability areas for encountering cultural resources, and to send these personnel along with work crews to ensure the proper identification of any encountered items.

10.0 SITE CONTROL PROGRAM

10.1 GENERAL REQUIREMENTS

EODT will review client site access security requirements and implement procedures to comply as required. EODT shall coordinate with the client to ensure EODT and sub-tier subcontractor personnel obtain security badges and vehicle passes, as required. EODT and sub-tier subcontractor personnel will be familiarized with site traffic regulations and compliance with these regulations will be strictly enforced. EODT and sub-tier subcontractor personnel will be familiarized with client prohibited items on site and compliance will be strictly enforced. EODT and sub-tier subcontractor personnel will follow client restricted access policies and vehicles shall be restricted to the routings established with the client and/or SSHO, as appropriate. EODT will inventory and mark equipment to be brought on site to ensure segregation from client equipment. The Site Control Program, SOP 124, includes all measures and procedures implemented at the site to control hazardous substance exposures to site personnel and the general public. Site-specific control procedures will be outlined in the Work Plan and/or as applicable in the SESHP and implemented by the SSHO prior to and during site activities. Site control procedures will be modified by the SSHO if site conditions change.

10.2 SITE MAP

A site map will be generated prior to commencement of activities. The site map will be used by the SSHO during the Tailgate Safety Briefings to inform the workers of the location of hazardous areas on the site, the assembly areas to be used in the event of a site evacuation, and any other information relevant to the day's activities. The site map will include the following:

1. Site topography and work zones
2. Location of unusual/hazardous areas
3. Prevailing wind direction
4. Ingress and egress corridors
5. Evacuation routes and assembly points
6. Location of emergency supplies

10.3 SITE ACCESS CONTROL

Site access control will be implemented by the SSHO, and will be accomplished through a program that limits movement and activities of people and equipment at the project site. Site access control will be based on site-specific characteristics, including:

1. Potential chemical, biological, and physical hazards
2. Expected weather conditions
3. Endangered or threatened flora or fauna
4. Terrain and planned site activities
5. Site proximity to populated areas

The degree of site access control will vary significantly based on the above characteristics. However, site access control will usually include the following:

1. Controlled site ingress/egress points
2. Worker/visitor registration
3. Security fence or barrier flagging
4. Escort of visitors
5. PPE requirements
6. Postings of site/work area boundaries

Barricades and/or barriers will be erected and maintained as needed to provide adequate protection and not impede the work. Barricades and/or barriers will be used to mark work areas and to restrict unauthorized personnel from entering hazardous work locations. Barrier devices shall identify the nature of the job hazard (i.e., yellow and black for "CAUTION" or red and black for "DANGER). Barrier devices such as barrier tape shall be used only in those applications where temporary identification of a hazard is needed, but not as a primary means of protecting personnel from exposure. Barriers left after dark on or in close proximity to roadways shall be properly equipped with flashing amber lights.

10.4 SITE WORK ZONES

Site Work Zones (WZ) will be established, as needed, by the SSHO prior to initiating operations to control site access and the spread of contamination. The three types of work zones utilized are Exclusion Zone (EZ), Contamination Reduction Zone (CRZ), and Support Zone (SZ). Designation of site work zones will be based upon site conditions, activities, and exposure potentials. Whenever possible, site work zones will be clearly marked using placards or signs and enclosed using hazard tape, ropes, chains, or fences. The SSHO will control access to each work zone, and ensure that all site workers and visitors have received the proper training and medical surveillance required to enter a specific zone. As site conditions warrant, the work zones listed below will be established:

10.4.1 Exclusion Zone

The Exclusion Zone (EZ) is the area where contamination does or could occur, and will include all areas where PPE is required to control worker exposure to chemical or physical hazards, to include UXO/OE/RCWM and HTRW. The outer boundary, called the Contamination Reduction Zone (CRZ), should be established based on the type and nature of the contaminant, the potential for contaminant release, site topography, meteorological conditions, and nature of site activities. The SSHO will be responsible for using the Exclusion Zone Entry/Exit Log, found in Figure 26-1, to record all personnel entry in and out of the EZ.

10.4.2 Contamination Reduction Zone

When possible, a CRZ will be established around the EZ. This zone will be used as a buffer between the EZ and the SZ, and will be used to minimize the spread of contamination from the EZ. The CRZ contains the Personnel Decontamination Station (PDS), which is used for decontamination of personnel exiting the EZ. Small, handheld pieces of equipment will be decontaminated in the PDS; but large pieces of equipment, such as backhoes or drill rigs, will be cleaned at an equipment decontamination station set up in the CRZ. The CRZ will also contain the site access corridor through which entrance to the EZ is controlled by the SSHO.

10.4.3 Support Zone

The Support Zone (SZ) is the area outside the CRZ where site support activities are conducted. This zone may include storage/office buildings, break areas, and sanitation facilities. Personnel working in this area will not be required to wear PPE unless they are involved with a site support function which requires the use of PPE, such as equipment maintenance. Due to the fact that personnel in this zone do not wear PPE, at no time should there be a potential for exposure from chemical hazards found on the site. To help ensure that no airborne chemicals migrate from the EZ to the SZ, the SZ should be located upwind from the EZ. If a significant change in wind direction occurs, site operations may have to be suspended or the SZ relocated.

10.5 SITE COMMUNICATIONS

Provisions for site communication will be specified in the Work Plan and as applicable in the SESHP, and will outline both on- and off-site communication systems. The type of on-site communication system utilized will be based on site size, topography, and vegetation. On-site radio communication will be required whenever workers are out of line-of-sight with the SSHO; are required to wear respirators; or the distance between the SZ and the work area prevents effective voice communication. Off-site radio or telephone communications shall be established prior to initiation of work to allow for communication with off-site emergency services. To facilitate on-site communication, all site workers will become familiar with the following hand/horn signals prior to site entry:

1.	Thumbs up:	“OK, I'm all right, I understand.”
2.	Thumbs down:	“No, negative; I don't understand.”
3.	Grip buddy's wrist:	“Leave site immediately, no debate!”
4.	Hand(s) on top of head:	“Need assistance”.
5.	Hands around throat:	“Respirator or breathing problems, can't breathe.”
6.	(Air Horn) One long blast:	“Evacuate site.”
7.	(Air Horn) Two short blasts:	“Return to site.”

10.6 BUDDY SYSTEM

The buddy system is a safety practice in which each individual is concerned with the health and well-being of coworkers. The buddy system will be implemented during all hazardous waste site/UXO on-site activities and will be incorporated whenever workers may be isolated, or as determined by the SSHO. The Site Manager or designee will assign "buddies" to ensure the accounting of all site personnel. Unless involved in one of the three operations listed below, at no time will an individual conduct an operation alone; all site personnel will always work with at least one "buddy". There are only three (3) exceptions to the buddy system: (1) when removing a mine, (2) when capping in preparation to a demolition shot, or (3) when safing a hand grenade. During these operations, the "buddy" will be in the line-of-sight at a safe distance to provide assistance, if required. At no time will an individual desert his "buddy", unless his "buddy" goes down and it is considered too hazardous to render assistance. "Buddies" will enter and exit EZ's and CRZ's together and frequently monitor one another for signs of fatigue, heat/cold stress, and any other problem. "Buddies" should inspect one another's equipment, including PPE, to ensure that it is adequate and in proper working order. This is especially important when wearing Levels "A", "B", and "C" PPE.

11.0 ENGINEERING CONTROLS/SAFE WORK PRACTICES/PPE

11.1 ENGINEERING CONTROLS AND SAFE WORK PRACTICES

Whenever feasible, engineering controls and safe work practices, or a combination thereof, shall be utilized to maintain personal exposures to hazardous substances below established exposure limits and to protect site workers from other ES&H hazards. The types of engineering controls and safe work practices to be used on site will be outlined in the Work Plan and as applicable in the SESHP. The maximum exposure limits to which EODT personnel will be exposed are either the OSHA Permissible Exposure Limits (PEL) found in 29 CFR 1910 Subpart G and 29 CFR 1910.1000, or the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV). EODT will use the most stringent level of the two limits. Other recognized published exposure levels, such as those found on MSDS's, will be used if the substance is not regulated by OSHA or cited by the ACGIH. EODT will not utilize a system of employee rotation as a means of complying with the PEL, TLV, or other published limits.

11.2 SELECTION AND USE OF PPE

If implementation of engineering controls and/or work practices are not feasible or adequate to reduce exposures and safeguard personnel, appropriate PPE will be selected by the ESHM using the criteria found in the Personal Protective Equipment Program in SOP 123 and the Respiratory Protection Program in SOP 125. The task-specific PPE selected by the ESHM will be outlined and defined using the CTHA forms.

12.0 EMPLOYEE TRAINING AND INFORMATION PROGRAM

Prior to commencement of site activities, the SSHO will ensure that all EODT personnel and contractor/subcontractor personnel actually engaged in hazardous operations are informed of the nature and degree of exposure to hazards which are likely to result from participation in site operations. EODT will accomplish this by ensuring that all personnel entering the site have received the appropriate OSHA and site-specific training, as outlined in this section, prior to participation in site activities. EODT will perform and complete a training needs analysis prior to initiating onsite work. This needs analysis will identify specific training requirements by job title. All personnel will be assigned to a specific job title and thus will be required to complete the training identified for the job title. Certain personnel may have multiple job titles such as Team Leader and OSHA Competent Person for Excavations.

12.1 NEW EMPLOYEE SAFETY ORIENTATION

All new personnel shall complete New Employee Safety Orientation prior to performing work in the field. This orientation will address the following topics.

- Head protection
- Eye protection
- Hearing protection
- Respirator protection
- Safety belts and lifeline
- Scaffolds
- Perimeter guards
- Housekeeping
- Fire protection
- First aid facilities
- Emergency procedures
- Toxic substances
- Trenching and excavation
- Signs, barricades, flagging
- Electrical safety
- Rigging and crane safety
- Road safety

12.2 NEWLY HIRED OR PROMOTED SUPERVISORS

Newly hired or promoted supervisors shall complete special safety training to include the following.

- Safe work practices

- Safety supervision
- Toolbox meeting
- Emergency procedures
- First aid procedures
- Accident investigation
- Fire protection/prevention
- New worker orientation

12.3 OSHA TRAINING FOR GENERAL HAZARDOUS WASTE SITE WORKERS

All EODT personnel, regardless of position, who are involved in hazardous waste site activities will receive 40 hours (or equivalent) of off-site hazardous waste operations training and 3 days (24 hours) of site-specific on-the-job training (OJT) under the direct supervision of a trained/experienced supervisor. This level of training will also be required for all contractor and subcontractor personnel and site visitors who enter the EZ, where respirators or other PPE are required to protect against entrance of known or potential overexposures. Forty-hour training equivalency will be granted by the ESHM to new employees who can show, through documentation or certification, that their previous work experience and/or training has resulted in training equivalent to that received in the 40-hour Hazardous Waste Operations course. The three-day OJT will be conducted by the SSHO and Senior UXO Supervisor, and will be documented using the EODT Documentation of Training Form (see Figure 26-4). This training will include classroom-type instruction covering the topics specified in Section 12.5, and on-site participation in the following:

1. Emergency response drills
2. Donning of PPE
3. Personal decontamination procedures
4. Use of relevant monitoring equipment
5. Safe work practices

12.4 OSHA TRAINING FOR LOW EXPOSURE HAZARDOUS SITE WORKERS

Site personnel who are not involved in activities where overexposure could occur are permitted by OSHA to obtain a lesser degree of hazardous waste training. This section applies to EODT contractors, subcontractors, and site visitors who meet the following criteria:

1. Work full time on the site, or
2. Occasionally work at or visit the site; **AND**
3. Enter work areas where respirators or other PPE are not required to protect workers against known or potential overexposures; **AND**
4. Work in areas where characterization data indicates that there are no health hazards or the potential for an emergency developing.

The workers meeting the above criteria will receive a minimum of 24 hours of off-site hazardous waste workers' training or equivalent and one day (8 hours) of site-specific OJT under the supervision of a trained/experienced supervisor. The one day OJT will be documented by the SSHO, utilizing the Documentation of Training Form.

12.5 OSHA MANAGER AND SUPERVISOR HAZARDOUS WASTE SITE TRAINING

All on-site managers and supervisors, to include the PM, Site Manager, SSHO, and Team Leaders who are responsible for directing others on hazardous waste sites, will receive the same training as the general site workers for whom they are responsible. They will also receive an additional 8 hours of OSHA-required supervisory training to enhance their ability to provide guidance and make informed decisions. This additional training should include the following:

1. Review of the EODT CESHP
2. Management of hazardous waste site cleanup operations
3. Management of site work zones
4. How to communicate with the media and the public
5. PPE selection and limitations
6. Spill containment
7. Monitoring site hazards

12.6 OSHA REQUIRED ANNUAL HAZARDOUS WASTE SITE REFRESHER TRAINING

Refresher training will be required, as a minimum, annually; and may be presented more frequently if significant changes occur in conditions affecting the ES&H of workers. As a minimum, refresher training will consist of 8 hours of discussion and/or review of relevant topics discussed in the 40-hour, 24-hour, and 8-hour Supervisors' training course.

12.7 SITE-SPECIFIC TRAINING

In order to fulfill the site information training requirements of 29 CFR 1910.120(b), (iv), and (i), all EODT personnel, contractors, and subcontractors performing hazardous waste site operations will attend site-specific training sessions that apply to individual jobs and responsibilities, and that provide an overview of the site hazards and the means to control those hazards. This training may be conducted by the client and/or the SSHO, and will include classroom instruction in the following subject areas, depending upon individual jobs:

1. Details of the SESHP
2. Employee rights and responsibilities
3. Safe work practices
4. Nature and extent of anticipated chemical and physical hazards
5. Measures and procedures for controlling site hazards

6. Handling of emergencies and accidents
7. Rules and regulations for vehicle use
8. Safe use of field equipment
9. Handling, storage, and transportation of hazardous materials
10. Use, care, and limitations of PPE
11. Safe sampling techniques
12. Hazard communication per OSHA 29 CFR 1910.1200

12.8 UXO/OE TRAINING

12.8.1 Previous Training Requirements for UXO-Qualified Personnel

All EODT personnel performing work involving the handling and destruction of UXO/OE must be graduates of the Naval Explosive Ordnance Disposal School, Indian Head, Maryland or equivalent. A copy of their certificate of graduation will be kept on file at corporate headquarters. UXO-qualified personnel shall be graduates of the US Naval School for Explosive Ordnance Disposal (at a minimum Phase I, chemical; and Phase II, surface) and fully certified to perform EOD operations. UXO-qualified personnel shall have three (3) years EOD experience in a military EOD-operational position prior to the time of hiring. UXO-qualified personnel shall have knowledge and experience in military ordnance, ordnance components, and explosives location; and identification, render safe, recovery/removal, transportation, and disposal safety precautions. UXO personnel shall have the knowledge and experience necessary to effect safe handling and transportation of recovered ordnance items. UXO personnel shall have extensive experience with the 60 Series EOD publications. Personnel who have been relieved of EOD duties while on active duty, or who have revoked their EOD volunteer statement while on active duty, shall not be considered UXO-qualified.

12.8.2 UXO Refresher Training

Prior to initiating site activities, UXO-qualified personnel shall receive UXO refresher training presented by the Senior UXO Supervisor and SSHO. This training will include technical data, such as identification features, fusing, fillers, and hazards associated with the types of UXO which may be encountered on site.

12.8.3 UXO Recognition Training

During the initial site hazard training, the EODT Senior UXO Supervisor and SSHO will provide all site personnel with site-specific UXO/OE recognition training. This training shall include recognition of known or suspect site UXO/OE, their associated hazards, procedures to follow if UXO/OE is encountered, and the "Do Not Touch" policy for non-UXO personnel. Non UXO-qualified personnel working or visiting a UXO/OE site will be escorted continuously by the SSHO or other UXO-qualified personnel while on site.

12.9 SAFETY BRIEFINGS

Prior to commencement of work a Work Site Specific Orientation and Emergency Reporting Orientation will be performed. This orientation will include

1. identification of personnel assigned as First Aid/CPR providers
2. accident reports
3. emergency medical access
4. site emergency response
5. emergency notifications and alarms
6. evacuation/sheltering procedures

Prior to commencement of work and at the conclusion of the SOW, all EODT and sub-tier subcontractor personnel will attend pre- and post-job briefings. The pre-job brief will address the work plan, the SESHP as applicable, and the Hazard Review/Job Hazard Analysis. This pre-job brief will be presented either initially or as personnel are introduced to the site. A post-job brief will be conducted at the conclusion of all work to obtain personnel feedback and to identify lessons learned. Safety Briefings consist of providing short training sessions that specifically address the hazards and controls for the work to be performed that day. The EODT Documentation of Training Form doubles as the Safety Brief Log/Form (see Figure 26-4). The Daily Pre-task Safety Briefing will be given prior to commencing work each day, and will include such items as:

1. Expected weather conditions
2. General site hazards
3. UXO hazards
4. PPE required for each task
5. Emergency evacuation procedures
6. Cold/heat stress precautions
7. Buddy system procedures
8. A review of any safety violations from the previous day
9. Any other significant events involving safety

12.10 DAILY DEBRIEFING

At the conclusion of each work day, a debrief for all personnel will be held, if appropriate. During this debrief, the day's work will be discussed to determine if new hazards were identified, or if changes in work practices/procedures are warranted before commencing the next day's activities.

12.11 PERIODIC SAFETY MEETING

Once each work week/period, or more frequently if needed, a pertinent safety topic will be selected and elaborated upon by the SSHO. These safety meetings will help ensure the ES&H of site personnel in the performance of regular work activities and in emergency situations. Subcontractors may attend these meetings, if appropriate. Safety meetings will be documented in the appropriate log, and the EODT Documentation of Training Form will be completed. Additional briefings will be provided as needed concerning the use of safety equipment, emergency medical procedures, emergency assistance notification procedures, accident prevention, the work plan, and site orientation, to ensure that accomplishment of the project can be carried out in a safe and effective manner.

12.12 VISITORS

All visitors to the site, even if escorted, must receive, as a minimum, a briefing on site conditions, hazards, and emergency response procedures. Visitors will not be permitted in the restricted work areas unless they have the appropriate level of OSHA training, have been respirator-trained and fit-tested, and medically approved, if required. Visitors not complying with the above requirements will not enter the restricted work areas; however, they may observe site conditions from a safe distance. All visitors will make appropriate entries in the Visitor's Log (See Figure 26-5). (Also see Section 17.0, Forbidden Practices, and Section 20.0, ES&H Requirements for Site Visitors.)

12.13 SUPPLEMENTAL TRAINING REQUIREMENTS

Site workers will receive OSHA-required and other relevant training, as specified in the Work Plan, SOPs, and SESHP, as applicable. This training includes, but is not limited to:

1. Hazard Communication (see SOP 110)
2. Confined Space (see SOP 103)
3. Blood-borne Pathogens (see SOP 129)
4. Fire Prevention and Protection (see SOP 109)
5. First Aid/CPR (see SOP 131)
6. Personal Protective Equipment (see SOP 123)
7. Hearing Conservation (see SOP 115)
8. Respiratory Protection (see SOP 125)
9. Excavation and Trenching (see SOP 107)
10. Heat Stress Prevention (see SOP 111)
11. Cold Stress Prevention (see SOP 102)
12. Biological Hazards (see SOP 101)
13. Drill Rig Operation (see SOP 104)
14. Drum and Container Handling (see SOP 105)

15. Electrical Equipment (see SOP 106)
16. Fall Protection (see SOP 108)
17. Heavy Equipment Operation (see SOP 112)
18. Control of Hazardous Energy, Lockout-Tagout (see SOP 113)
19. Material Handling and Lifting (see SOP 114)
20. Site Rules and Prohibitive Practices (see SOP 116)
21. Sanitation, Housekeeping, and Illumination (see SOP 117)
22. Accident Prevention Signs, Tags, and Labels (see SOP 118)
23. Hand and Power Tool Operation (see SOP 119)
24. UXO/OE Operations-General (see SOP 120A)
25. UXO/OEW Operations-Mechanical Screening (see SOP 120B)
26. UXO/OE Excavation Operations (see SOP 120C)
27. UXO/OE Operations-Demolition/Disposal Operations (see SOP 120D)
28. UXO/OE Operations-Explosives Acquisition, Storage, and Accountability (see SOP 120E)
29. UXO/OE Operations Explosives and OE Transportation (see SOP 120F)
30. AEDA Range Residue Turn-in (see 120G)
31. Welding and Cutting Procedures (see SOP 121)
32. Motor Vehicle Operation (see SOP 122)
33. Site Control Program (see SOP 124)
34. Site Safety and Health Monitoring Program (see SOP 126)
35. UXO Safety Officer Program (see SOP 127)
36. Hazardous Substance and Chemical Compatibility (see SOP 128)
37. Shallow Water Operations (see SOP 130)
38. New Technology Program (see SOP 132)
39. Analytical Sampling Specification (see SOP 133)
40. Field Screening Analysis (see SOP 134)
41. Contamination Control Program (see SOP 135)
42. Animal Waste Hazards (CEA) (see SOP 136)
43. Mechanical Separation (see SOP 137)
44. HAZWOPER Equivalency Determination (see SOP 138)

12.14 OSHA COMPETENT PERSON TRAINING

EODT will train qualified personnel to serve as competent persons to oversee specific job activities as required by specific OSHA standards. For example, trained and qualified personnel shall be provided to oversee evacuations and penetrations and to operate, direct, plan, and execute lifts, cranes, hoists, or other equipment.

12.15 TRAINING DOCUMENTATION

To confirm that adequate training for assigned tasks is provided and that training is current, the EODT Documentation of Training Form will be completed and kept on file at all work sites (see Figure 26-4). The training records will be made available to the client upon request.

13.0 MEDICAL SURVEILLANCE

13.1 GENERAL REQUIREMENTS

Medical surveillance of EODT personnel, who work at hazardous waste sites, will be conducted IAW the requirements of OSHA 29 CFR 1910.120(f), 29 CFR 1910.134(b) (10), and other established guidelines. The personnel to be included in the Medical Surveillance Program will be those who perform hazardous waste operations which may potentially expose the worker to hazardous substances or other significant ES&H threats. A baseline health assessment will be conducted prior to participating in site operations and annually thereafter, to determine the worker's ability to perform hazarPPMus waste operations in a safe and healthful manner. The ESHM, in conjunction with the SSHO, will ensure that all health assessments address the site-specific health hazards to which workers may be exposed.

13.2 PHYSICIAN OVERSIGHT

The following physician has been designated by EODT to oversee the Medical Surveillance Program and, when feasible, to provide medical assessments for EODT personnel.

Dr. Timothy Oesch
Concentra Medical Services
1030 Oak Ridge Turnpike
Oak Ridge, Tennessee 37830
Phone (865) 425-4640 Fax (865) 425-4646

When required by logistical restrictions, the ESHM may designate an alternate physician located near the project site to implement the site-specific Medical Surveillance Program. This physician will either be board-certified in occupational medicine or have had extensive experience managing occupational health services programs. The designated physician will perform the medical assessments specified in this section to determine each worker's ability to perform assigned duties. The physician will also be responsible for determining if supplemental or follow-up examinations are required, and for maintaining medical and exposure records IAW OSHA 29 CFR 1910.120(d).

13.3 MEDICAL SURVEILLANCE PROGRAM

The purposes of the Medical Surveillance Program are to: (1) assess the individual's health status prior to participation in hazardous waste operations, (2) determine the individual's ability to perform work assignments requiring the use of personal protective equipment (PPE) and clothing, (3) establish baseline data for comparison to future medical data in order to provide a means of monitoring a worker's health status, (4) establish facilities and procedures for emergency and non-emergency medical treatment, (5) establish procedures for maintenance and

storage of medical and exposure records, and (6) establish procedures for periodic review of this program.

13.3.1 Pre-Assignment and Annual Health Assessment

The pre-assignment and annual health assessment will include the following:

1. A complete medical and occupational history
2. Physical examination
3. Pulmonary Functions testing and quantitative respirator fit testing
4. Urinalysis
5. Blood Chemistry panel (SMAC) to include Zinc Portoprophryn
6. Pulmonary function testing (FEV and FVC); respiratory fit testing, as required
7. Audiometry , determination of STS, and vision testing
8. Chest X-ray (PA) and/or electrocardiogram (as determined by the physician)
9. Drug testing
10. Site-specific urine, blood, or biological tests, as outlined in the applicable SESHP

13.3.2 Physician's Statement

The results of this examination will be made available to the employee, and a written physician's statement will be sent to EODT. The physician's statement will include the following: 1) the physician's opinion regarding any conditions which would place the employee at an increased risk from working in hazardous waste operations; 2) the physician's recommended limitations upon the employee's assigned work, if any; and 3) a statement that the employee has been informed by the physician of the results of the examination and any conditions which may require further examination or treatment.

13.3.3 Termination Examination

Upon termination of employment, personnel who have worked continuously at a hazardous waste site project for more than six (6) months will be afforded an opportunity to undergo a termination examination equivalent to the pre-assignment health assessment. The content of this examination may be modified by the physician, based on input from EODT related to the nature and type of exposure the worker received.

13.3.4 Supplemental Examination

Any site worker who has: been injured; received health impairment; developed signs or symptoms of possible over-exposure; or received a documented over-exposure without the use of

respiratory protection, will undergo a supplemental examination. The contents of this examination will be based upon the type of injury, illness, signs or symptoms, or exposure involved, and will be determined by the physician. Prior to reassignment to site activities, the physician will certify that the employee is fit to return to work. If necessary, the physician will specify in writing any job restrictions or additional tests which may be required.

13.3.5 Follow-Up Health Assessments

If, during any pre-assignment, annual examination, or supplemental examination, a condition is detected which requires follow-up tests, the physician will notify EODT and the employee as to the nature of the follow-up health assessment. The schedule and content of the follow-up health assessment will be determined by the physician. A statement outlining the employee's fitness for work will be provided to EODT and the employee upon conclusion of the follow-up health assessment.

13.3.6 Reassignment Evaluation

If, during the twelve (12) month period since a worker's last health assessment, the worker is reassigned to a different hazardous waste project, a reassignment evaluation will be conducted if: 1) the worker's assigned duties change significantly, 2) the types of chemical or physical hazards to which the worker may be exposed change significantly. In the event that any of these occur, the ESHM will inform the examining physician of the changes and request that the physician evaluate the previous health assessment in relation to the new assignment. The examining physician may request additional tests to evaluate the worker's ability to work on the new project to which he has been assigned. Once the health assessment has been determined to be adequate, the examining physician will provide a written statement to the employee and EODT summarizing the results of the reassignment evaluation.

13.4 EMERGENCY AND NON-EMERGENCY MEDICAL TREATMENT

Provisions will be made within each Work Plan and/or as applicable SESHP for providing emergency and non-emergency medical treatment for workers who are injured or become ill as a result of site operations. The SSHO will be responsible for establishing contact and coordinating with local hospitals and occupational health physicians, to ensure that appropriate medical treatment will be available. The SSHO will also be responsible for ensuring that all relevant information pertaining to medical treatment is contained within the Work Plan and/or SESHP, and that all site workers are familiar with this information. This information shall include the names and locations, including maps, of emergency and non-emergency hospitals and physicians; required on-site first aid supplies; emergency responsibilities; decontamination procedures; and emergency communications.

13.5 RECORD KEEPING

EODT will retain and maintain all physician statements, exposure records, and associated information for EODT personnel involved in hazardous waste operations. Examining physicians will be responsible for maintaining records related to laboratory and other tests for each EODT employee examined. All records, whether maintained by EODT or by the examining physician, will be kept on file for a period of thirty (30) years beyond an employee's termination IAW OSHA 29 CFR 1910.20(d).

13.6 PROGRAM REVIEW

The ESHM will be responsible for annually reviewing and updating the Medical Surveillance Program and its associated elements to ensure the program is sufficient for monitoring the health status of EODT personnel. If deficiencies are noted, they will be corrected by the ESHM.

14.0 GENERAL SITE SAFETY REQUIREMENTS

Hazards due to normal site activities can be reduced by using common sense and following safe practices. The general site safety guidelines and requirements are delineated in SOP 116, and personnel will be instructed to keep the prudent guidelines listed below in mind when conducting field activities:

1. Hazard assessment is a continuous process; personnel must be aware of their surroundings and constantly be aware of the UXO, chemical, and physical hazards that are or may be present.
2. The number of personnel in the exclusion zone will be the minimum number necessary to perform work tasks in a safe and efficient manner.
3. Team members will be familiar with the physical characteristics of each site, including wind direction, site access, and the location of communication devices and safety/emergency equipment.
4. The location of overhead power lines and underground utilities must be established.
5. Contact with potentially contaminated substances by walking through puddles or pools of liquid; kneeling on the ground; or leaning, sitting, or placing equipment on the contaminated soil should be avoided.
6. Detection or appearance of unusual liquids, odors, or discolored soil could indicate the presence of contaminants, and should be reported to the SSHO immediately.
7. Site personnel are to report any unusual or hazardous condition to the SSHO for investigation and/or correction.
8. All tools shall be used in accordance with the manufacturers' recommendations, have required guards in place, and be maintained in good working order. No job-made tools are to be used unless specifically approved prior to use by the SSHO (and client as required).
9. All major equipment and tools, including hand tools, shall be maintained in good operating condition prior to use, inspected, operated, and maintained by qualified personnel.
10. Any air compressor provided or used shall meet ASTM pressure vessel requirements and have pressure relief protection. Both the vessel and relief valve shall be inspected and tested prior to use. Copies of the inspection and testing records shall be maintained on site.
11. Equipment inspection certificates will be available on site and made available to the client upon request. Equipment certifications include cranes, slings, and other equipment required to be certified by regulations.

15.0 UNEXPLODED ORDNANCE SAFETY

15.1 GENERAL REQUIREMENTS

There is no "safe" procedure for dealing with UXO, merely procedures which are considered least dangerous. However, maximum safety in any UXO operation can be achieved through adherence to applicable safety precautions and by developing a preplanned approach. The USACE Safety Concepts and Basic Considerations found in SOP 120A will be utilized on all sites where UXO/OE hazards exist.

The greatest hazard to a UXO technician is complacency. It is imperative that team members are constantly reminded of the inherent dangers associated with UXO. This can be accomplished at the Tailgate Safety Briefings by relating incidents which have occurred to UXO technicians that resulted in "near misses", injury, or death.

15.2 TRAINING REQUIREMENTS

All personnel engaged in UXO operations shall be thoroughly trained in explosive and ordnance safety, and be capable of recognizing UXO/OE and bulk explosives. Safety must become a firmly established habit when working with UXO/OE. Only graduates of the U.S. Navy EOD School located in Indian Head, Maryland are permitted to handle UXO/OE and to conduct demolition operations. All other non-UXO qualified personnel, subcontractors, and visitors will not be allowed to handle UXO/OE unless an item has been certified by on-site UXO-qualified personnel as being inert ordnance related scrap (ORS). As discussed previously, the SSHO will conduct periodic UXO refresher and awareness training over the course of the project, covering UXO encountered at the site. This safety training will include type, function, fuzing, and inherent hazards, and will be a key factor in enhancing UXO/OE safety during the project.

16.0 DRUM AND CONTAINER HANDLING PROGRAM

The guidelines in SOP 105 shall be followed whenever EODT personnel and subcontractors are involved in the handling, sampling, transportation, labeling, or disposal of drums and containers which contain hazardous substances or contaminated soils, liquids, or residues.

17.0 PERSONNEL AND EQUIPMENT DECONTAMINATION

17.1 GENERAL REQUIREMENTS

Personnel involved in hazardous waste operations will, to the extent feasible, prevent contamination of PPE and field equipment through the use of safe work practices outlined in the General Site Safety Requirements found in SOP 116. Decontamination procedures, as outlined in SOP 124, will be implemented and utilized when the potential for contamination exists due to site conditions, type of contaminant, and nature of the activity performed.

17.2 SITE DECONTAMINATION PLAN

Prior to initiation of site activities, the ESHM, in conjunction with the EODT Environmental Engineer, will review the types of contaminants and the potential for contamination, and generate a Site Decontamination Plan which will be incorporated into the SESHP. The Site Decontamination Plan shall include procedures and material requirements for the decontamination of personnel and equipment. When applicable, the Site Decontamination Plan will address any federal, state, and local requirements for the containerization and disposal of waste generated during the decontamination process. Items and material which may require special handling, containerization, and disposal may include:

1. Personnel decontamination, wash, and rinse solutions
2. Discarded protective clothing
3. Equipment decontamination, wash, and rinse solutions, including run-off from heavy equipment steam cleaning
4. Soil, water, or sludge discarded during sampling activities

18.0 SITE ILLUMINATION AND SANITATION

18.1 ILLUMINATION

Conducting work in poorly illuminated conditions is inherently dangerous. There will be no UXO/OE or HTRW operations conducted during the hours of darkness unless required by extreme heat stress or specifically requested by the client, and with sufficient lighting to attain a candle power rating of five foot candles in the work zone. In general, on site UXO/OE operations will not begin until 30 minutes after sunrise and will cease 30 minutes prior to sunset. Additional guidance is provided in SOP 117.

18.2 SANITATION

Adequate sanitation facilities will be provided at each work site, to ensure proper personal hygiene. Sanitation facilities shall, as a minimum, consist of the following:

1. An adequate supply of potable water will be available, and stored in proper containers.
2. Potable water containers will be appropriately labeled as to the contents, and will not be used for any other purpose.
3. Where single-use cups are used, a sanitary container for disposal of cups will be provided.
4. Non-potable water will be stored in appropriately labeled containers indicating that it is unsafe for drinking or washing purposes.
5. Temporary toilet facilities will be provided for site workers IAW Table 18-1.
6. Adequate hand-washing facilities will be provided at all sites, and may consist of soap and potable water, or handi-wipes.
7. Eye wash facilities will be available at all sites where operations in any of the work zones involve handling substances which could be hazardous to the eyes.

TABLE 18-1. TEMPORARY TOILET FACILITIES

NUMBER OF SITE Personnel	**OSHA MINIMUM NUMBER OF FACILITIES**
20 or fewer	One
>20 but <200	One toilet and one urinal per 40 personnel
>200	One toilet and one urinal per 50 personnel
NUMBER OF SITE Personnel	**EODT MINIMUM NUMBER OF FACILITIES**
0 – 10	One plus one for each additional 1-10 personnel. Example: 21 personnel = Three (3) temporary toilet facilities

19.0 HOISTING AND RIGGING

Hoisting and rigging operations are inherently hazardous and can result in serious injury and/or property damage. A process will be implemented to ensure proper and safe planning and execution of lifts. All hoisting and rigging activities (i.e., use of overhead and gantry cranes, mobile cranes, hoist, rigging devices, and devices such as wire rope, chain, metal mesh slings synthetic-web slings and special below-the-hook attachments and fixtures) will be conducted in according with the Department of Energy Hoisting and Rigging Manual, DOE-STD-1090-2004. EODT shall cancel hoisting and rigging operations based on consideration of weather, condition of lifting hardware, electrical line clearances, or any other factor that may adversely affect the successful conclusion of the lift. EODT will coordinate planned hoisting and rigging activities with the Client as required.

19.1 PERSONNEL QUALIFICATIONS

Only qualified personnel or trainees, under the direct supervision of qualified personnel, who meet the physical qualifications and requirements specified in DOE-STD-1090-2004, Section 15.2.1.a shall be allowed to operate mobile cranes. Prior to allowing mobile crane operations, the SSHO will ensure that qualifications of the crane operator have been evaluated to include a written test and performance (hands-on) testing to evaluate operator skills. The criteria in DOE-STD-1090-2004, Section 15.2.1.b shall be utilized to conduct this evaluation. Only qualified riggers shall be used to perform hoisting and rigging operations. The SSHO shall utilize the criteria in DOE-STD-1090-2004, Section 15.2.3 to evaluate the qualification of riggers. A Person-In-Charge (PIC) shall be appointed by the SSHO to oversee all critical and pre-engineered lifts. The PIC shall ensure that a Lift Plan is prepared that defines the operation in accordance with DOE-STD-1090-2004, Section 2.2.c. Qualified signalers used in performing critical and pre-engineered lifts shall designated by the SSHO. Qualified inspectors shall be appointed by the SSHO to properly inspect hoisting and rigging equipment.

19.2 EQUIPMENT CERTIFICATION AND INSPECTION

Only properly certified and inspected hoisting and rigging equipment shall be utilized. Equipment certifications and inspection records for on site equipment shall be maintained by the SSHO. In addition, each rigging device shall be checked by the qualified rigger prior to daily use and all damaged or excessively worn devices shall be immediately taken out of service.

19.3 LIFT PLANS

The PIC shall classify each lift into one of the following three categories:

1. Ordinary
2. Critical
3. Pre-engineered

A lift will be classified as critical if any of the following conditions are met:

1. The load item, if damaged or upset would result in a release into the environment exceeding established permissible environmental limits.
2. The load item is unique and, if damaged, would be irreplaceable or not repairable and is vital to a system, facility or operations.
3. The cost to replace or repair the load item, or the delay in operations of having the load damaged would have a negative impact on facility, organizational, or Project budgets to the extent that it would affect Project commitments.
4. A lift not meeting the above criteria shall also be designated critical if mishandling or dropping the load would cause any of the above to nearby installations or facilities.
5. Further site-specific criteria may be developed to supplement these criteria and may include loads which require exceptional care in handling because of size, weight, close-tolerance installation or high susceptibility to damage as well as lifts using multiple pieces of lifting equipment.

EODT will ensure that all critical and pre-engineered production lifts shall have a written lift plan reviewed and approved by the SSHO and PIC before the lift. Client approval of the Lift Plan will be obtained prior to the lift as required. If any deviation from crane manufacturer recommendations is anticipated, approval shall be secured from the manufacturer and included in the plan for evaluation.

A pre-lift meeting involving participating personnel shall be conducted prior to making a critical lift. The critical lift plan shall be reviewed and questions shall be resolved. If required, a practice lift shall be performed prior to the critical lift.

20.0 ES&H REQUIREMENTS FOR SITE VISITORS

Site visitors are defined as persons (1) who are not employed at the project site, (2) who do not routinely enter restricted work areas and, (3) whose presence is of short duration (i.e., 1 to 2 days at one time or per month). Visitors who wish to observe site activities from the SZ only are required to meet the general safety, health, and training requirements of Paragraphs 20.1 and 20.2. These visitors may include client personnel, EODT personnel, commercial vendors, political representatives, and auditors or inspectors from federal, state, or local agencies. Visitors who enter the EZ during site operations will meet the additional requirements found in Paragraph 20.3.

20.1 GENERAL REQUIREMENTS FOR ALL VISITORS

The following requirements apply to visitors whose purpose is to observe site conditions or field activities from the SZ without entering the CRZ or EZ:

1. Whenever possible, the senior EODT on-site representative and the SSHO will be notified of the nature and duration of the visit before visitors are permitted to enter the site.
2. The visitor's log will be completed, including the individual's name, date, and the name of the company or agency represented.
3. Visitors will comply with specific ES&H requirements described below, as applicable.

20.2 TRAINING REQUIREMENTS FOR ALL VISITORS ENTERING THE SZ

All visitors will receive site-specific training to ensure that visitors are aware of the potential hazards and risks associated with the site. This training will consist of a safety briefing conducted by the SSHO that will include:

1. Location and description of potential hazards and risks
2. Required PPE
3. Areas of the site that are closed to visitors
4. The site evacuation plan and emergency procedures
5. Presence of HTRW or RCWM
6. Other topics as deemed appropriate

20.3 ADDITIONAL REQUIREMENTS FOR VISITORS ENTERING THE EZ

Site visitors wishing to enter the EZ during site operations will be subject to the same medical surveillance, PPE, and ESHA training requirements as assigned site personnel. Documentation of Training and Medical Surveillance will be presented to the SSHO prior to entry into the EZ. The site visitor will be escorted by an EODT representative at all times while in the area. The SSHO, or his designee, will be a member of the escorting party whenever the EZ area is entered.

21.0 NEW TECHNOLOGY PROGRAM

The New Technology Program has been developed to ensure that EODT maintains its aggressive and proactive efforts toward providing a safe and healthful work environment. This Program requires that the PPM and ESHM periodically review available information related to new technologies which may be used to further protect site workers. This Program is outlined in detail in SOP 132.

22.0 EMERGENCY RESPONSE AND CONTINGENCY PLAN

22.1 INTRODUCTION

EODT's primary objective is to reduce on-site hazards and eliminate the risk of an emergency occurring. However, in the event of an emergency, it will be the effective use of contingency planning that will minimize the impact of the emergency. To protect the safety and well-being of on-site personnel, the environment, and the public, a site-specific Emergency Response and Contingency Plan (ERCP) shall be designed and incorporated into the Work Plan and as applicable the SESHP. The ERCP will minimize the adverse effects of an emergency through the identification of potential emergencies and the specification of appropriate response actions. The ERCP shall address the items discussed in this section.

EODT shall ensure that all EODT personnel and sub-tier subcontractor personnel receive indoctrination on the ERCP. This indoctrination shall include:

1. Protective actions
2. Shelter-in-place
3. Evacuation of personnel
4. Notifications
5. Emergency signals
6. Evacuation routes
7. Assembly areas
8. Personnel accountability

Personnel who join the on-site team following the initial indoctrination shall be indoctrinated. EODT will document the ERCP indoctrination training and make it available to the client upon request.

22.2 PRE-EMERGENCY PLANNING

22.2.1 Development of Control Procedures and Contingency Plans

Potential emergencies which may occur on project sites include physical injury, fire, explosion, chemical spill or release, inclement weather, and natural disasters. During the development of the WP and/or SESHP, EODT personnel will utilize historical data relative to the site's location, in an attempt to anticipate the nature and degree of emergencies that could occur during the project. Once potential emergencies are identified, procedures will be outlined to eliminate, or significantly reduce, the risk of occurrence for those emergencies over which EODT personnel may have control (e.g., EODT has little ability to control natural disasters, but may control the risk of fire). These control procedures will be incorporated in appropriate sections of the WP and/or SESHP. Contingency plans for minimizing the effect of each emergency will also be

developed, and will be included in the ERCP. Client specific emergency response requirements will be incorporated into the ERCP as appropriate.

22.2.2 On-site Pre-operational Planning and Procedures

The SSHO will perform the applicable pre-operational tasks listed below, before EODT personnel initiate field activities where emergencies could arise:

1. Coordinate off-site response resources by consulting with EMT/police/fire personnel.
2. Locate telephone and air horn stations.
3. Post emergency telephone numbers at accessible telephone locations.
4. Inspect all emergency equipment and supplies to ensure that they are in proper working order.
5. Provide a site map marked with planned evacuation routes, assembly points, and emergency equipment and supplies.
6. Post copies of the highlighted hospital route map in the office/break trailer and all vehicles.
7. Conduct an emergency response drill to test the effectiveness of the ERCP; and revise the ERCP in the event of a plan failure during an actual or staged emergency, or when changes in site conditions or SOW affect the ERCP.
8. Utilize the pre-operational training and tailgate safety briefings to ensure that all site personnel understand the emergency recognition, prevention, and response procedures.

22.3 LINES OF AUTHORITY AND RESPONSIBILITY

Unless stipulated otherwise by the client's SOW, the SSHO will be designated as the On-Scene Incident Commander (OSIC) in the event of an emergency. The OSIC will have the overall responsibility for implementation of the ERCP and coordination with responding on- and off-site emergency services. Once an emergency has occurred, the SSHO will report the incident to the client ES&H Representative, the PM, and the ESHM. If the emergency involves employee injury, the SSHO will complete the EODT Accident/Injury/Illness/Near Miss Report (see Figure 26-8), and the ESHM will be responsible for notifying applicable federal, state, and local authorities/agencies. Once the emergency has been resolved, the SSHO, Site Manager, PM, ESHM, and VPO will conduct a follow-up investigation and critique.

22.4 EMERGENCY PREVENTION AND NOTIFICATION

Prevention of emergencies will be aided through the implementation of the SESHP, CESHP, personnel awareness, contingency planning, and on-site safety meetings. During development of

the SESHP, the WP and as applicable the ESHM will evaluate site tasks, conditions, and hazards to assist identification of the types of emergencies which could arise during site operations. This information will be delineated in the site-specific ERCP.

In the event of an emergency, site personnel will be alerted/notified by either visual or audible communication. This notification will ensure that personnel follow the procedures listed below:

1. Stop work activities.
2. Evacuate to the designated assembly point.
3. Begin emergency procedures as directed by the SSHO.

22.5 EVACUATION ROUTES AND PROCEDURES

In the event of an emergency that requires evacuation of the site, an alarm will be sounded, or verbal instruction will be given by the SSHO to evacuate the area. Personnel will exit the area to the pre-designated upwind assembly point. After evacuation, the SSHO will account for all personnel, ascertain information about the emergency, and advise responding on-site personnel. The SSHO will contact, advise, and coordinate with responding off-site emergency personnel, if deemed necessary by the situation or the client ES&H Representative. In all situations that require evacuation, personnel shall not re-enter the work area until the conditions causing the emergency have been corrected; the hazard has been reassessed; the Work Plan and as applicable the SESHP has been reviewed and, if necessary, revised; site personnel have been briefed on the causes of the emergency and any revisions to the SESHP; and instructions have been given for authorized reentry by the SSHO.

22.6 EMERGENCY MEDICAL TREATMENT AND FIRST AID

In the event of a personal injury/illness emergency, first aid should be rendered by on-site First Aid trained personnel and emergency medical services summoned, if deemed necessary by the SSHO (see SOP 129 and SOP 131). Injured personnel in the EZ will be decontaminated to the extent possible without causing further injury. Lifesaving and first aid procedures take priority over personnel decontamination efforts. The SSHO will have final authority on the decision to require additional professional medical services (i.e., paramedics, hospital visit, etc.) for any illness or injury. EODT will assign at least two First Aid/CPR certified attendants to each work site.

22.7 FIRE OR EXPLOSION PROTECTION

22.7.1 Fires

The decision to attempt to extinguish a fire, using available site personnel and equipment, will be made by the SSHO, and based on whether the fire is small, large, or involves explosives (see SOP 109).

22.7.1.1 Small Fires

A small fire is defined as a fire that can most likely be extinguished by site personnel using one or two 10-20 lb. portable extinguishers. A small fire must also be free and clear of explosive materials, especially UXO/OE. If a small fire occurs, the SSHO will direct site personnel to perform the following, if safe to do so:

1. Evacuate unnecessary personnel to an upwind position.
2. Attempt to extinguish the fire using portable fire extinguishers or by smothering.
3. Remove any essential or flammable items from the path of the fire.
4. Notify emergency response services (fire, police, ambulance, hospital, etc.) as needed.

22.7.1.2 Large Fires

A large fire is defined as a fire which cannot be extinguished or one which, due to its size, can not be extinguished using one or two 10-20 lb. fire extinguishers. In the event that a large fire occurs, and the fire does not involve explosive materials, the SSHO will direct personnel to perform the following, if safe to do so:

1. Evacuate all non-essential personnel from the site to an upwind location.
2. Notify the fire department and other emergency response services as needed.
3. Order the appropriate level of PPE to be worn by personnel responding to the fire.
4. Attempt to control the fire to the extent possible.
5. Remove any essential or flammable items from the path of the fire.

22.7.1.3 Fires Involving Explosive Materials

If a fire occurs which involves explosive materials such as chemicals, fuels, or UXO/OE, the SSHO will order the immediate evacuation of all site personnel to a predetermined upwind assembly point. The assembly point will be located at a safe distance from the site. The SSHO will then notify the fire department and any other emergency services (police, ambulance, hospital, etc.) as needed.

22.7.2 Explosions

In the event of an explosion, the SSHO will order the evacuation of all site personnel to a safe, upwind assembly point. The SSHO will then notify all necessary emergency response services, and will initiate emergency medical treatment necessary for any injured personnel.

22.8 CHEMICAL SPILL OR LEAK

In the event of a spill or leak of any potentially harmful material (regardless of quantity) on-site personnel will:

1. Notify the SSHO and Site Manager immediately.
2. The Senior UXO Supervisor shall notify the EODT PM of the spill/leak with relative information (location, time, chemical identity, quantity, MSDS), and any corrective actions/measures taken.
3. Locate the source and stop the leak/spill if it can be done safely (as dictated by the SSHO, where necessary, with advice from the ESHM).
4. Begin containment and recovery of spilled material (as directed by the SSHO), using appropriate PPE and spill clean-up equipment and materials.
5. Once notified, the EODT PM will, in turn, notify the Client Representative, who will advise EODT if any additional actions are necessary.
6. If advised to do so, the SSHO will notify off-site emergency response services.

22.9 EMERGENCY CONTACTS

National emergency resources that may be used in the event of an emergency are as follows:

1.	Poison Control Hotline	1-800-222-1222
2.	EPA National Response Center	1-800-424-8802
3.	CHEMTREC	1-800-424-9300
4.	Federal OSHA Emergency Hotline	1-800-321-OSHA (6742)

Site-specific emergency telephone numbers, such as the client Project Manager, area hospital, ambulance, and air ambulance support, will be specified in the SESHP. Site-specific directions and route maps for area hospitals will also be included in the SESHP and posted.

22.10 EMERGENCY EQUIPMENT

Based upon the anticipated emergencies and the number of personnel on site who could be involved, the ESHM will outline in the WP/SESHP/ERCP the types of medical, fire, first aid, and life support equipment which will be required on site during operations. It shall be the responsibility of the SSHO to maintain the site emergency equipment in good working order. Weekly inspections shall be performed by the SSHO and documented in the Site Safety Log. Deficiencies, used medical supplies, and/or defective equipment shall be corrected or replaced as soon as possible.

22.11 STANDARD PROCEDURE FOR REPORTING EMERGENCIES

22.11.1 Relevant Emergency Information

In the event of an emergency requiring off-site assistance, the SSHO or other designated site personnel will provide the following information:

1. Name of person making call
2. Telephone number at location of person making call
3. Nature of emergency
4. Name of person(s) exposed or injured
5. Actions already taken

22.11.2 Notification of EODT Corporate And Client Personnel

The SSHO will immediately notify the ESHM and the client of an event or condition that adversely effects or may adversely affect the mission, personnel, public, property, or environment. The scene shall not be changed without ESHM and client concurrence, unless it is to mitigate an imminent hazard or stop a spill in progress. In the event of an emergency, illness, or injury requiring more than on-site first aid, or a near miss, the SSHO will complete the EODT Accident/Injury/Illness/Near Miss Report presented in Figure 26-8. A copy of this report will be faxed to the ESHM within 24-hours of the incident occurrence, with the original maintained on site. If required by the Client's SOW, the ESHM will either complete the Client's accident forms or forward a copy of the EODT form to the Client's Representative. The ESHM will also be responsible for any necessary reporting to federal or state OSHA offices. If required by the client's SOW, EODT shall report all first aid cases as soon as possible by verbal means and/or client reports as required. If required by the client's SOW, EODT shall report property damage to equipment, facilities, and motor vehicles to the client through use of designated channels and/or forms.

22.11.3 Follow-up and Documentation

Before normal activities are resumed, on-site personnel must be prepared and equipped to handle another emergency. These follow-up activities should be completed:

1. The ESHM will notify appropriate government agencies, as required
2. All equipment and supplies must be restocked, serviced, and inspected.
3. All aspects of the SESHP must be reviewed and revised, as necessary, to address and prevent future emergencies of this type.

Investigation and documentation of any emergency response shall be initiated by the SSHO. EODT will afford the client the opportunity to participate in the investigation of each injury/illness, accident, incident, near miss, or environmental noncompliance. The documentation will be a written report, and will be inclusive of the following:

1. Accurate, concise, and objectively recorded information
2. Authentic Information: Each person making an entry must sign and date that entry. Nothing is to be removed or erased. If details are changed or revised, the person making the change should strike out the old material with a single line and initial and date the change.
3. Titles and names of personnel involved
4. Actions taken, decisions made, orders given, to whom, by whom, when, what, where, and how, as appropriate
5. Summary of data available (air monitoring, chemical concentrations, etc.)
6. Possible exposure of personnel
7. Copies of all the Exposure/Injury/Illness Accident Reports, the Employer's Report of Occupational Injury or Illness (OSHA Log 300), or Eng Form 3394, as appropriate, will be completed and forwarded to the ESHM.

EODT will provide the client a complete written accident/incident investigation report that outlines causes, connected actions, and measures taken to prevent reoccurrence. EODT shall be responsible to complete proposed corrective actions per the established due dates unless otherwise agreed upon. EODT will maintain accurate accident and injury/illness logs and shall submit, as required by client SOW, copies of the logs to the client in accordance with the clients' timetables. Similar logs will be maintained for all sub-tier subcontractors and will be submitted as required.

EODT will maintain copies of the appropriate medical treatment forms (medical provider's diagnosis, restrictions, treatment plan). Prior to an injured or ill employee returning to work, the attending physician must approve a report releasing the employee to full or limited duty. Similar records will be maintained/required for all sub-tier subcontractor employees. Where required by client SOW, forms will be submitted to the client in accordance with the clients' timetables.

EODT shall maintain reports and documents required by federal, state, and local regulations and those required by the EODT ES&H plan. These reports and documents shall be submitted to the client upon request.

22.12 REMOTE LOCATION OPERATIONS

EODT and/or sub-tier subcontractor personnel who perform work at remote locations must utilize the buddy system and have a reliable means of communication with base operations. Communications between base and remote personnel must be capable of being continuous. A list of required emergency equipment must be in each vehicle used in remote locations. Equipment to be maintained in each vehicle includes:

1. shovel
2. water
3. first aid kit
4. fire extinguisher

23.0 SITE-SPECIFIC MONITORING PROGRAM

23.1 GENERAL REQUIREMENTS

Using the general guidelines, monitoring equipment information, and sampling strategies outlined in the CESHP Site Monitoring Program found in SOP 126, a site-specific monitoring plan will be developed, as needed, for all sites where there is a potential for employee exposure to chemical and physical hazards.

23.2 SITE MONITORING PLAN

The Site Monitoring Plan, as defined in the SESHP, will be used to identify and quantify the levels of exposure, and to assure proper selection and effectiveness of engineering controls, work practices, and PPE. The Site Monitoring Plan shall outline the types of monitoring equipment and strategies to be used during each phase of the operation to identify potential IDLH conditions or personal exposures over established exposure limits. The monitoring plan will also define the action levels for each hazard which will require upgrading, or allow downgrading, of PPE levels.

23.3 DIRECT READING INSTRUMENTS

Whenever possible and feasible, Direct Reading Instruments (DRI's) will be used to assess the exposure potential of personnel who have the highest risk of overexposure. If DRI readings indicate that the action levels have been exceeded, the SSHO will contact the ESHM. The ESHM will then determine if personal breathing zone sampling will be conducted to further quantify exposure levels. Personal air sampling will be conducted using NIOSH/OSHA-approved sampling and analytical techniques. Whenever possible and feasible, DRI's will also be used to monitor the perimeter of the site work zones to determine the effectiveness of the work zone in containing contamination, and to ensure the continued protection of site workers, the general public, and the environment.

23.4 TRAINING REQUIREMENTS

EODT personnel involved in conducting site monitoring shall be properly trained in the use, maintenance, and calibration of the instruments for which they are responsible. This training will be conducted by the SSHO, who will be mentored by the ESHM, and will be recorded using the EODT Documentation of Training Form (Figure 26-4).

23.5 RECORD KEEPING

Site monitoring data, as outlined in the Site Monitoring Log Form (See Figure 26-6), will be recorded for all site monitoring, and will be maintained as part of the project records. Other means of recording the monitoring information may be utilized as long as all pertinent

information is recorded (see Figure 26-7). Copies of all monitoring will be forwarded to the ESHM at the end of each work week by the SSHO.

23.6 CONTAMINANTS TO BE MONITORED

Depending on the operation and potential contaminants, surveys will be performed as required to determine the following:

1. Airborne concentrations of chemical or biological materials
2. Combustible/explosive gas/vapor levels
3. Toxic gas levels
4. Oxygen levels
5. Noise levels
6. Air-borne particulate matter
7. Personnel contamination
8. Surface contamination in work areas
9. Contamination of personal protective apparel and equipment
10. Suitability of equipment and materials to be released to unrestricted areas

23.7 METEOROLOGICAL MONITORING

Monitoring of meteorological conditions will be conducted when: site activities involve the potential for a chemical release, weather conditions could affect worker health, or when this type of monitoring is required by the contractor. Meteorological monitoring may involve tracking of any or all of the following: temperature, wind velocity, wind direction, and relative humidity.

24.0 ENVIRONMENTAL, SAFETY, AND HEALTH INSPECTIONS AND AUDITS

24.1 DAILY/WEEKLY AND VEHICLE INSPECTIONS

The SSHO will conduct daily ES&H inspections and weekly audits. The SSHO will utilize the Daily Inspection and Weekly Audit Site Safety Checklist and the Vehicle Inspection Checklist in Figures 26-9 and 26-10, and will ensure that the results are communicated to the Senior UXO Supervisor. At the conclusion of the weekly audit, a copy of the inspection checklist will be forwarded to the ESHM for review. Additionally, any daily checklist with deficiencies noted will also be forwarded to the ESHM. Once the deficiency has been corrected, the SSHO will notify the ESHM of the resolution.

24.2 PERIODIC SITE AUDITS

The VPO, ESHM, or designee will conduct ES&H audits of each project site every 60-90 days, or more frequently if necessary, using the Site ES&H Audit Form in Figure 26-11. The auditor will generate documentation for each project/site audit, and review with the SSHO, Senior UXO Supervisor, and PM any deficiencies noted and the corrective actions to be taken. A ES&H Audit Report will be provided to the President of EODT, VPO, PM, Site Manager, and UXOSO/SSHO within two weeks of completion of the audit. Recommended corrective actions are required to be implemented immediately by the PM, Site Manager, and SSHO.

24.3 CORRECTIVE ACTIONS

EODT will promptly initiate action to correct all identified hazards or deficiencies. EODT will promptly report all identified hazards or deficiencies not under EODT control to the client. EODT will take steps to ensure the safety of employees, the public, and the environment until the hazards are corrected.

24.4 ANNUAL REVIEW OF THE CESHP

The ESHM will conduct a review of the CESHP annually, or whenever changes in existing federal, state, or local regulations impact the contents of this Program.

25.0 VIOLATIONS AND DISCIPLINARY ACTIONS

25.1 SAFETY AND HEALTH VIOLATIONS

IAW SOP 116, the ES&H violations listed below are applicable to all work areas. In addition, no worker may engage in any activity for which the consequences of his actions are unclear without the prior approval of the SSHO. If such activities become necessary to complete any phase of the work, the necessary ES&H requirements will be prepared by the SSHO as an addition to the SESHP. The following practices are strictly forbidden on any site:

1. Horseplay or fighting
2. Eating, drinking, smoking, chewing gum, use of tobacco or any other substances, or use of facial cosmetics (except in designated areas after face and hands have been washed)
3. Wearing of contact lenses (unless prior approval is granted)
4. Unnecessary sitting or kneeling on contaminated surfaces
5. Placing equipment on contaminated surfaces (whenever practicable)
6. Climbing on or over obstacles
7. Starting or maintaining an open flame of any type, unless authorized by the SSHO
8. Entry to the work site with equipment that has not been determined to be in proper working condition
9. Entering the work site, under any circumstances, by any employee or visitor without prior approval
10. Dispensing of flammable liquids without bonding and grounding of containers (if applicable)

In addition to the above-listed practices, the SSHO may impose other prohibitions, as deemed necessary, to ensure safe operations.

25.2 DISCIPLINARY ACTIONS

Safety rules and practices are established for the safety of all personnel and to promote the welfare of the company. If the occasion arises whereby safety rules and practices established by the SESHP are violated, appropriate penalties will be imposed. Infractions are divided into two categories: "Minor" and "Major". An example of a minor violation is reporting for work without the prescribed Level D PPE. Any violation of the SESHP that could have or did result in an accident involving personal injury or property damage is considered a major violation. The following guidelines are imposed for penalties:

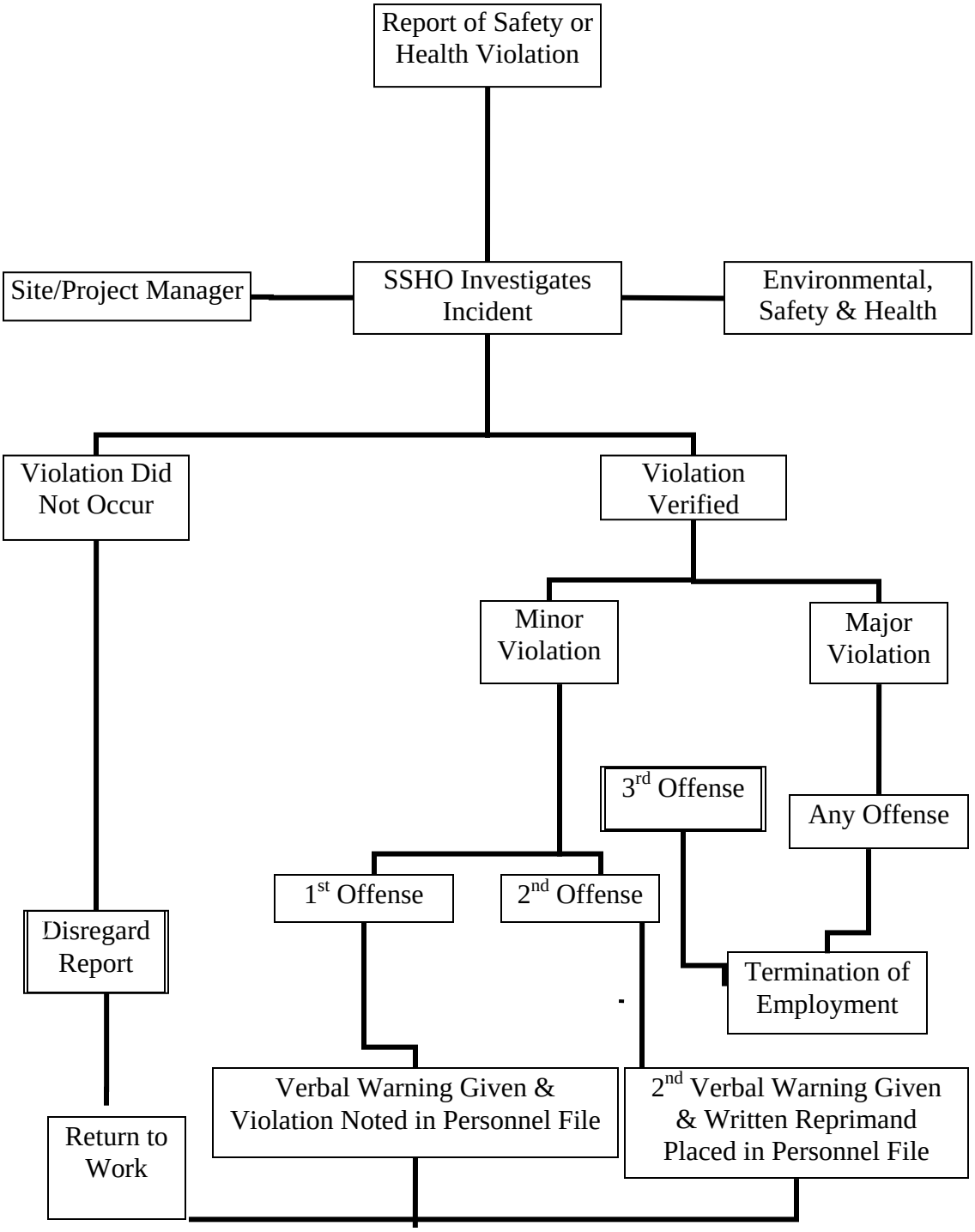
TABLE 25-1: DISCIPLINARY ACTIONS FOR MINOR AND MAJOR VIOLATIONS

Minor Violations	
First Offense:	Verbal warning to individual; offense to be noted in individual's and supervisor's project file; discussion with individual's supervisor.
Second Offense:	Written reprimand by the Site Manager; reprimand will be entered into individual's file; discussion with individual and individual's supervisor.
Third Offense:	Termination of employment by the Site Manager and notification to the PM.
Major Violations	
Any Offense:	Minimum penalty will consist of a written reprimand, to be entered in individual's file; and a discussion with the individual by the Site Manager will be conducted. Depending upon the severity of the violation, the Site Manager may temporarily dismiss the individual from the job site. If this occurs, the incident will immediately be reported to the PPM and the ESHM by the SSHO or Site Manager. Upon completion of a full investigation, the individual's employment may be terminated, if deemed appropriate, through a joint decision of the VPO, ESHM, PM, and/or Site Manager.

Figure 25-1 is the Violation and Disciplinary Action Flow Chart. When a violation occurs:

1. An investigation of the incident will be carried out by the SSHO, to determine whether a violation has in fact occurred.
2. If the SSHO determines that a violation has occurred, the following actions will be accomplished:
   a. A report of the violation will be submitted to the Site Manager and ESHM by the SSHO.
   b. The SSHO, in conjunction with the ESHM and Site Manager, will determine whether the violation is “major” or “minor”.
   c. The Site Manager, in conjunction with the ESHM, and PM, will determine the appropriate disciplinary action.

FIGURE 25-1: VIOLATIONS AND DISCIPLINARY ACTIONS FLOW CHART



26.0 LOGS AND RECORD KEEPING

26.1 SAFETY LOG

A daily Safety Log will be maintained on site by the SSHO. This log will be recorded in a bound book with sequentially numbered pages, and will include as a minimum the following information: weather conditions, inspections conducted, results of the inspections, safety issues addressed each day, and any significant occurrences related to site safety. Further information and log examples are detailed in the SSHO Program outlined in SOP 127.

26.2 TRAINING LOG

The SSHO is responsible for ensuring that training conducted on the job site is recorded daily, and that the EODT Documentation of Training Form is properly completed. Depending upon the number of personnel on site, the SSHO may record the site training in the bound site Safety Log, without the generation of a dedicated, bound Training Log book. Regardless of where the training is recorded in the permanent record, the Documentation of Training Form will be completed and maintained on site with the other site records.

26.3 VISITOR LOG

A visitor record will be kept at the entrance to all EODT work sites to record when off-site personnel visit the work site. Visitors to the site must be given a safety briefing and must be logged in and out by the SSHO as soon as they enter the Support Zone. Again, depending upon site size and conditions, the Visitor Log Form may be used to initially record the entry and exit of site visitors. However, details of the visit, to include the purpose of the visit and the personnel involved, should be recorded in the bound Safety Log. Further procedures for site visitors are outlined in Chapter 20 of this CESHP.

26.4 FORMS

Forms utilized to document ES&H processes are included in this section.

FIGURE 26-1: EODT TEAM REVIEW FORM

All site personnel shall sign this form after having read the SESHP, and will do so prior to being allowed to perform operations on site involving known or potential exposures to safety of health hazards.

EMPLOYEE STATEMENT

My signature below indicates that I have read the SESHP and have received answers to any questions that I had related to the SESHP. My signature further indicates my willingness to comply with the provisions and requirements of the SESHP.

Site/Location:			
Date:	Organization	Printed Name	Signature

Figure 26-1

FIGURE 26-2: CERTIFICATON OF TASK HAZARD ANALYSIS

Task: **Analyzed by:**

Reviewed by:

PRINCIPLE STEPS	POTENTIAL HAZARDS	RECOMMENDED CONROLS
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**

CERTIFICATION OF TASK HAZARD ANALYSIS			
The signature below certifies that the above mentioned persons have assessed and reviewed this task to ascertain the potential hazards associated with its conduct, and to determine the control techniques and PPE which will be required to safeguard site personnel from the identified hazards.			
Signature of Analyst:	Date:	Signature of Reviewer:	Date:

FIGURE 26-3: EXCLUSION ZONE ENTRY/EXIT LOG

Location:		**Contract No.:**					**Task Order No.:**			

FIGURE 26-4: DOCUMENTATION OF TRAINING LOG OE OPERATIONS

Date:	Instructor(s):	Time:	No.:
Contract Number:	Delivery Order Number:		
Location:			
Training Provided: G Initial Site Hazard Training G Weekly Safety Training G Other: G Tailgate Safety Briefing G Task/Hazard Specific Training_____			

I. TRAINING TOPICS COVERED

Work Plan and /SESHP: _____

UXO/OE Hazards: _____

Chemical Hazards: _____

Physical Hazards: _____

Emergency Procedures: _____

Other:

II. TRAINING COURSE ATTENDANTS

NAME (printed)	SIGNATURE	ORGANIZATION

FIGURE 26-4 (continued): DOCUMENTATION OF TRAINING LOG OE OPERATIONS

II. TRAINING COURSE ATTENDANTS (continued)

NAME (printed)	SIGNATURE	ORGANIZATION

III. VERIFICATION

I certify that the personnel listed on this roster received the safety training described above. Site personnel not attending this training will be briefed before beginning their assigned duties.

Site Safety and Health Officer

Sr. UXO Supervisor / Project Manager

FIGURE 26-5: EODT SITE VISITORS LOG FORM FOR OE OPERATIONS

LOCATION:			CONTRACT NO.:		DELIVERY ORDER NO.:		
Date	Name	Company	Reason for Visit	Safety Briefing Given By	Time In	Time Out	Escort Req'd (Y / N)

FIGURE 26-6:

Location: _____ **Operation:** _____

Contract No.: _____ **Delivery Order No.:** _____ **Work Shift:** _____ **Sampler:** _____

TYPE OF MONITORING AND RESULTS

Date	Time (24 hr)	Noise (dBA)	Org. ppm	O_2 %	LEL %	CO ppm	HCN ppm	Dust mg/m^3	Remarks

Instrument Information

Type	Make	Model	Serial Number	Cal. Date

General Remarks and Observations

FIGURE 26-7:

Sampling Date:	Project Name/Location:	Sampled By:
Personal Protective Equipment Used:	Exposure During Unsampled Time:	
Environmental Conditions:	Job Description:	

Pump No.	Sample No.	Sample Type	Employee Name	Employee ID/SSN	Calibration (lpm)			Time (Hr:Min)		Total Time (Min.)	Total Volume (L)	Analyte Sampled	Sample Result	Sample Conc.	Excur. Conc.	8-Hour TWA
					Begin	End	Ave.	Start	Stop							

Sample Type: B-Background; BZ-Breathing Zone(Personal); C-Clearance; CA-Clearance (Aggressive Sampling); E-Environmental; IA-Inside Work Area; OA-Outside Work Area

FIGURE 26-8: EODT ACCIDENT/INJURY/ILLNESS/NEAR MISS REPORT

GENERAL INFORMATION			
Name:	**SSN:**		
Job Title:	**DOB:**	**Sex:**	**Age:**
Site Name:	**SSHO:**		
Date of Report:	**Date of Incident:**		**Time of Incident:**
Task/Operation Being Conducted:			
PPE Worn:			
Site Conditions at Time of Incident			
Temperature: _____Humidity: _____ **Wind Speed: _____Direction: _____ Cloud Cover: _____** **Precipitation: _____ Other:_____**			
Type of Incident: G Personal Injury G Personal Illness G Chemical Exposure **G Motor Vehicle G Property Damage G Near Miss**			
If chemical exposure, what material(s) was(were) involved: _____ **What was the nature of exposure (contact, inhalation, etc.): _____**			
Other Individual(s) Involved:			
INJURY/ILLNESS INFORMATION			
Nature/Type of Injury/Illness (laceration, strain, etc.):			
Cause of Injury/Illness:			
Body Part(s) Affected: Primary			**Secondary**
On-site First Aid:			
Off-site Medical Treatment Received:			
Physician Statement (attach documentation):			
Injury/Illness Has Resulted In: G Temporary Disability G Loss of Work Time G Fatality **G Permanent Disability G Limited Duties G Other: Explain: _____**			

FIGURE 26-8 (continued): EODT ACCIDENT/ILLNESS/NEAR MISS REPORT

MOTOR VEHICLE ACCIDENT		
Type of Vehicle/Equipment	**Type of Collision**	**Seat Belt Use**
G Automobile G Van/Truck G Bush Hog G Other:	G Side Swipe G Rear End G Backing G Head on G Broadside G Roll	Front Seat G Yes G No Back Seat G Yes G No
Property/Material/Items Involved		
Name of Item	**Owner**	**$ Amount of Damage**
Accident Description (Use additional paper if needed)		

POST ACCIDENT/ILLNESS REVIEW		
Has EODT Home Office been notified? G Yes G No, If Yes, When?		**By Whom?**
Were operations conducted using approved EODT CESHP or a SESHP? **G Yes Reference:** **G No Explain:**		
SSHO's Comments:		
Employee Comments:		
Witnesses		
Name	**Organization**	**Phone Number**
Employee Signature:		**Date:**
SSHO Signature:		**Date:**
Actions Completed By:		**Date:**
EODT Corp. Review By:		**Date:**

FIGURE 26-9: EODT SAFETY INSPECTION AND AUDIT LOG

DATE:	TIME:	LOG NO.:
CONTRACT NO.:	DELIVERY ORDER NO.:	
LOCATION:		
WEATHER CONDITIONS:		

I. AREAS INSPECTED: (List by grid number, Team or task)

INSPECTION RESULTS

Item Description	Pass	Item Description	Pass
1. Personal Protection (PPE) per SESHP	Y / N	9. UXO/OE Detection Equipment	Y / N
2. Work Practices Follow SESHP	Y / N	10. UXO/OE Detection Equipment Calibration	Y / N
3. Site Control/Decon per SESHP	Y / N	11. MSDSs and Container Labeling per SESHP	Y / N
4. First Aid Kit(s)/Eyewash Station(s)	Y / N	12. On- and Off-Site Communications	Y / N
5. Fire Extinguisher(s)	Y / N	13. Site House Keeping	Y / N
6. Flammable Storage Areas	Y / N	14. Explosives / Ordnance Storage Areas	Y / N
7. Safety and Health Monitoring Equipment Use	Y / N	15. Other: (list)	Y / N
8. Monitoring Equipment Calibration	Y / N	16. Other: (list)	Y / N

III. CORRECTIVE ACTIONS RECOMMENDED (If required):

IV. REINSPECTION RESULTS (If required):

V. SIGNATURES: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

_____ _____

Site Safety and Health Officer Sr. UXO Supervisor / Project Manager

Note: Safety Inspections are to be conducted each day and documented on this form. This form will also be used to document the Weekly Safety Audit conducted at the end of each work week. The weekly audit will not only indicate the present status of the site/site operations, but will also be used to note the current status of deficiencies noted during daily inspections. Daily inspection forms where deficiencies have been noted, and the weekly audit will be faxed to the EODT Occupational Safety and Health Manager.

FIGURE 26-10: EODT WEEKLY VEHICLE INSPECTION CHECKLIST

(To be used weekly for all vehicles EXCEPT explosive carriers which must be inspected prior to each explosives transport)

SITE LOCATION: _____ **INSPECTOR:** _____

VEHICLE: _____ **OWNER:** _____
(MAKE AND LICENSE PLATE #) **(RENTAL, EODT, GFE, CONTRACT)**

DATE INSPECTED: _____ **MILEAGE:** _____

1. DOCUMENTATION:	**Pass**	**Fail**	**2. BRAKES:**	**Pass**	**Fail**
Registration	[ ]	[ ]	Hand/Emergency	[ ]	[ ]
Insurance	[ ]	[ ]	Service	[ ]	[ ]
Emergency Route Map and Phone Numbers	[ ]	[ ]			
3. TIRES:			**4. BELTS:**		
Pressure	[ ]	[ ]	Proper tension	[ ]	[ ]
Condition	[ ]	[ ]	Condition	[ ]	[ ]
5. EQUIPMENT:			**6. LIGHTS:**		
Fire extinguishers	[ ]	[ ]	Headlights (high & low)	[ ]	[ ]
First Aid/CPR/Burn	[ ]	[ ]	Brake Lights	[ ]	[ ]
Eyewash Kits	[ ]	[ ]	Parking	[ ]	[ ]
Emergency Breakdown Kit	[ ]	[ ]	Back-up	[ ]	[ ]
Spare Tire	[ ]	[ ]	Turn Signals	[ ]	[ ]
Tire Changing Equipment	[ ]	[ ]	Emergency Flashers	[ ]	[ ]
Tie downs*	[ ]	[ ]			
Chocks*	[ ]	[ ]			
Placards*	[ ]	[ ]			
7. FLUID LEVELS:			**8. GENERAL:**		
Oil	[ ]	[ ]	Windshield Wipers	[ ]	[ ]
Coolant	[ ]	[ ]	Windshield/Windows	[ ]	[ ]
Brake	[ ]	[ ]	Seat Belts	[ ]	[ ]
Steering	[ ]	[ ]	Steering	[ ]	[ ]
Transmission	[ ]	[ ]	Horn	[ ]	[ ]
Windshield Wiper	[ ]	[ ]	Gas Cap	[ ]	[ ]
Fluid Leaks	[ ]	[ ]	Mirrors	[ ]	[ ]
			Cleanliness	[ ]	[ ]
			Exhaust System*	[ ]	[ ]

(Note: Items marked with * apply to explosive carriers only, and must be inspected prior to each use)

Description of deficiencies: _____

_____

Corrective Actions Taken: _____

_____

Deficiencies corrected by: _____ Date: _____

FIGURE 26-11: SITE COMPLIANCE CHECKLIST

GENERAL SITE INFORMATION				
Date:	Location:			
Contract No.:	Task Order No.:			
Sr. UXO Supervisor:	SSHO:			
Audit Performed by:	Proj. Manager:			
COMPLIANCE ITEMS		**In Compliance?**		
		Yes	**No**	**N/A**
1.0	**CESHP AND SESHP**			
1.1	Written CESHP is available upon request to site, contractor, and regulatory personnel.			
1.2	Relevant CESHP Attachments, Programs, and SOP's are on site and being followed.			
1.3	WP and SESHP are on site, and SESHP Review Form is signed by all site personnel.			
1.4	Safety/training/visitor/monitoring logs are available and up to date.			
2.0	**SITE HAZARD ASSESSMENT**			
2.1	Potential IDLH conditions were identified prior to employee entry.			
2.2	A task hazard assessment has been conducted to identify the chemical and physical hazards associated with each task.			
2.3	A certificate of task hazard assessment has been completed which identifies the appropriate PPE and other control methods to be used to protect personnel from task hazards.			
3.0	**SITE CONTROL**			
3.1	Written Site Control Plan has been incorporated into SESHP.			
3.2	Elements of site control program are being implemented (i.e. buddy system, site security).			
3.3	Exclusion, work, decontamination, and/or support zones have been established and posted as per SESHP.			
3.4	Site personnel are following the standing orders for each zone.			
4.0	**TRAINING PROGRAM**			
4.1	All personnel have received the required 40-hour OSHA HAZWOPER training (or its equivalent) and annual refreshers, if needed.			
4.2	Personnel have received three-day supervised training, and the Three Day Training Form has been signed by all personnel.			
4.3	Management/supervisory personnel have additional 8-hour Management/Supervisor training.			
4.4	Copies of all training certificates are available on site.			
4.5	Emergency response personnel have been designated/trained for anticipated emergencies.			
4.6	Site Hazard Information Training has been given to site personnel, to include potential risks and hazards for each task they perform, and chemical, physical, and toxicological properties of identified or suspected site contaminants.			
4.7	Hazard Communication Training has been given to personnel who work with products containing hazardous substances, to include a review of the relevant MSDS's.			
4.8	Site personnel have been given hazard-specific training, such as PPE, Hearing Conservation, etc., and training forms have been completed.			
4.9	At least two site personnel are trained in First Aid/CPR.			
4.10	Daily tailgate safety briefings and weekly safety meetings are being conducted/documented.			
5.0	**MEDICAL SURVEILLANCE**			
5.1	Medical surveillance is provided to on-site personnel.			
5.2	Provisions have been made for medical surveillance of personnel who receive a documented, unprotected overexposure or develop signs and symptoms of exposure.			

5.3	Site-specific medical tests, as required by the SESHP, have been conducted prior to site personnel participating in site activities where exposure can occur.			
5.4	Physician's written statement is retained in employee's records, and a copy is available on site.			
5.5	Personnel with potential occupational exposure to blood or body fluids have been given the opportunity to be vaccinated against HBV; and if they declined, they signed form confirming this.			
6.0	**ENGINEERING CONTROLS, EQUIPMENT, WORK PRACTICES, AND PPE**			
6.1	Engineering controls and safe work practices (SWP's) are being used whenever feasible.			
6.2	Equipment required by the WP and SESHP is on site, inspected, and in proper working order.			
6.3	PPE has been selected according to the limitations of the PPE and the level/type of hazard.			
6.4	SCBA or positive pressure air line with escape is provided for known/potential IDLH conditions.			
6.5	Level A suits are being used for environs that are highly corrosive/toxic through skin contact.			
6.6	Level A suits are pressure tested and visually inspected prior to use.			
6.7	All PPE is being inspected, used, cleaned, stored, and maintained IAW the SESHP.			
6.8	Respirators are issued only to personnel who have training and medical clearance.			
6.9	Personnel using respirators have been tested for the type of respirator being used.			
7.0	**MONITORING**			
7.1	Monitoring equipment is being calibrated, operated, and maintained IAW manufacturer's requirements; and calibration, monitoring, and maintenance records are available.			
7.2	Monitoring is being conducted IAW the SESHP.			
7.3	High-risk workers are monitored initially, and all workers are monitored if levels indicate the need.			
7.4	Work area and perimeter monitoring is being conducted IAW the SESHP.			
7.5	Site monitoring log is being completed for all personnel and area monitoring.			
8.0	**HANDLING DRUMS AND CONTAINERS**			
8.1	Drums and containers used on site meet DOT, OSHA, and EPA regulations.			
8.2	Drums and containers found on site are being inspected prior to being moved or handled.			
8.3	All unlabeled drums/containers are being handled as hazardous waste until identified otherwise.			
8.4	Drum and container movement is being minimized.			
8.5	Drums/containers are opened IAW approved methods listed in SESHP.			
8.6	Containers are assessed for radioactive waste.			
8.7	Drum sampling is performed IAW the approved sampling plan.			
8.8	Staging of drums and containers is being conducted IAW the Staging Plan found in the SESHP.			
8.9	DOT salvage drums and adequate spill response materials are available and written spill containment program is available.			
8.10	Materials are assessed for compatibility prior to being bulked together.			
8.11	Shock-sensitive waste is being identified and handled appropriately.			
8.12	Lab packs are opened by properly trained personnel.			
8.13	Drums and containers are being transported off site by a licensed hazardous waste hauler.			
9.0	**DECONTAMINATION PROGRAM**			
9.1	Decontamination procedures have been developed/implemented prior to personnel/equipment entry.			
9.2	Site workers have been properly trained and are complying with the written decontamination procedures.			
9.3	All potentially contaminated equipment, clothing, and PPE are being properly decontaminated.			

9.4	All decontamination solutions are being containerized at the end of each day.			
9.5	Decontamination procedures have been evaluated for effectiveness.			
9.6	On-site showers and change houses comply with 29 CFR 199.141.			
10.0	**EMERGENCY RESPONSE AT UNCONTROLLED HAZARDOUS WASTE SITES**			
10.1	Written emergency response plan has been incorporated into SESHP.			
10.2	Written procedures are available for reporting incidents to local, state and federal agencies.			
10.3	Emergency response plan has been reviewed, rehearsed regularly, and amended, as needed.			
10.4	Emergency phone numbers and hospital maps are posted on site and placed in all vehicles.			
10.5	First aid, burn, and eye wash kits are available on site and in each vehicle, with a bloodborne pathogen control kit located with each first aid kit.			
10.6	Adequate type, number, and size fire extinguishers are appropriately located, and are inspected weekly and signed off monthly.			
10.7	Flammable liquid storage areas are properly established, with approved “No Smoking” signs, flagging, etc.			
10.8	Employee alarm system is on site and perceivable by site personnel.			
11.0	**ILLUMINATION**			
11.1	No on-site outdoor work is being conducted until 30 minutes after sunrise and ends thirty minutes before sunset, and adequate light levels are maintained in all other workplace facilities.			
12.0	**SANITATION**			
12.1	Adequate supply of potable water is available from appropriately labeled containers or outlets.			
12.2	Non-potable water source is appropriately labeled, with no potential connection to potable water.			
12.3	Appropriate type and adequate number of toilets are available.			
12.5	Wash facilities are located near site but away from exposure potentials.			
12.6	Shower/change facilities are located away from exposure potentials, and designed and operated IAW OSHA requirements.			
12.7	Site is being maintained in a neat and orderly fashion, free of trash and debris, with adequate waste cans with lids available.			

REMARKS. OBSERVATIONS, AND RECOMMENDATIONS

SIGNATURES

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Signature of SSHO (UXOSO): _____ Date:

Signature of Sr. UXO Supervisor: _____ Date:

Signature of Project Manager: Date:

Signature of Auditor: Date:

FIGURE 26-12: SAFETY/QUALITY SUGGESTION/NEAR MISS REPORT

Date:	Site Name:	Site Location:	
Employee's Name:	Employee's Position:	Site Manager:	Site SSHO:
SAFETY/QUALITY SUGGESTION			
NEAR MISS REPORT			
IMPLICATIONS TOWARD ON-SITE SAFETY			
STEPS TAKEN TO IMPLEMENT SUGGESTION/NEAR MISS REPORT			
EFFECT OF IMPLEMENTATION (IF KNOWN)			

Note: Submit additional pages if needed.

27.0 SAFETY AND QUALITY INCENTIVE PROGRAM

27.1 GENERAL

To foster a greater awareness toward Zero Accident Performance, and to reward on-site personnel for their role in maintaining project quality and personnel safety, EODT will implement a worker safety and quality incentive program. Within this program will be a personnel award system designed to reward and motivate personnel toward:

1. Maintaining their own individual safety awareness
2. Providing EODT with ideas and suggestions for improving quality or safety (See Figure 26-12)
3. Reporting near misses
4. Reporting substandard quality performance

27.2 PROCEDURE

27.2.1 Quarterly Safety Award

Award consists of a certificate of recognition and the corporate coin.

27.2.2 SSHO and QCS Semi-Annual Awards

Given for Significant Safety and Quality Assurance Achievement, Suggestions for Life/Injury Saving Actions. Consists of certificate, coin, and monetary award. Must be documented and approved by the President, and reviewed and recommended by the PPM and ESHM.

27.3 PROGRAM REVIEW

This program will be reviewed at least annually to ensure its value as an incentive tool and to determine if modification is needed. Both the ESHM and the QCM will review this program, and will make changes as needed to ensure that this program retains its value to both EODT and its employees.