



# **WORKER SAFETY AND HEALTH PROGRAM**

**for**

## **WEST VALLEY DEMONSTRATION PROJECT ENVIRONMENTAL CHARACTERIZATION SERVICES WEST VALLEY, NEW YORK**

**SEC -WSHP  
Rev. 0**

**February 2012**

***Prepared for:***

**U.S. Department of Energy  
West Valley Demonstration Project (WVDP)  
Environmental Characterization Services (ECS)  
West Valley, New York**

***Prepared by:***

**Safety and Ecology Corporation (SEC)  
2800 Solway Road  
Knoxville, TN 37931**



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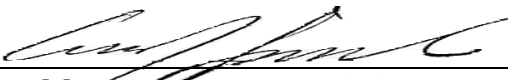
**Worker Safety and Health Program (WSHP)  
U.S. Department of Energy  
West Valley Demonstration Project  
Environmental Characterization Services  
West Valley, New York**

**Contract No.: DE-EM0001242**

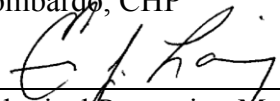
**WSHP APPROVALS**

By their specific signature, the undersigned certify that they prepared, reviewed, or provided comments on this Worker Safety and Health Program for the DOE West Valley Demonstration Project, Environmental Characterization Services, West Valley, New York

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Date

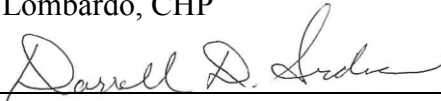
  
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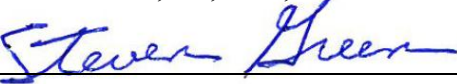
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APPENDIX A: Implementation/Compliance Matrix for 10 CFR 851



## ABBREVIATIONS, ACRONYMS, AND SYMBOLS

ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
DCGL	Derived Concentration Guideline Level
DOE	U.S. Department of Energy
ECS	Environmental Characterization Services
EEOICPA	Energy Employee Occupational Illness Compensation Program
ES&H	Environmental, Safety, and Health
FSS	Final Status Survey
IDW	Investigation-derived Waste
ISMS	Integrated Safety Management System
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
NDAA	National Defense Authorization Act
NDE	Non-destructive Examination
NFPA	National Fire Protection Association
NYSERDA	New York State Energy and Research Development Authority
O	Order
PPE	Personal Protective Equipment
QAP	Quality Assurance Plan
SEC	Safety and Ecology Corporation
SME	Subject Matter Expert
SOW	Statement of Work
WSHP	Worker Safety and Health Program
WVDP	West Valley Demonstration Project



## EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), in response to the statutory mandate of Section 3173 of the Bob Stump National Defense Authorization Act (NDAA), established Code of Federal Regulations (CFR) Title 10 CFR 851, *Worker Safety and Health Program* (the Rule), to govern contractor activities at DOE sites. This Rule codifies and enhances the worker protection program in operation when the NDAA was enacted.

The Rule supersedes DOE Order (O) 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*. The Rule establishes the framework for an effective Worker Safety and Health Program (WSHP) that provides DOE contractor workers with a safe and healthful workplace in which workplace hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are adequately protected from identified hazards.

The following worker safety and health requirements of 10 CFR 851 govern the conduct of contractor activities at DOE sites:

- Requirements for a WSHP that reduces or prevents occupational injuries, illnesses, and accidental losses by providing DOE contractors and their workers with safe and healthful workplaces at DOE sites and
- Procedures for investigating whether a violation of a requirement has occurred for determining the nature and extent of any such violation, and for imposing an appropriate remedy.

The Rule requires contractors to provide a written WSHP that describes how the contractor will integrate all applicable requirements of the Rule with other related site-specific worker protection activities with the Integrated Safety Management System (ISMS).

Section (a) of 10 CFR 851.11, *Development and Approval of Worker Safety and Health Program*, requires that contractors submit to the contracting officer documentation of their WSHP for review and approval. Safety and Ecology Corporation (SEC) has prepared this document to describe the SEC WSHP and fulfill the intent of the Rule, hereafter identified as the “WSHP.” Appendix A, Implementation Matrix for 10 CFR 851, is a crosswalk which identifies the applicable SEC policies and procedures that implement each part of the Rule.



## **1.0 PURPOSE**

### **1.1 Policy**

The Safety and Ecology Corporation (SEC) organization at the West Valley Demonstration Project (WVDP) is committed to providing a safe and healthful workplace for employees. These conditions will be ensured through an aggressive and comprehensive worker safety and health program that is integrated with other site worker protection activities and our Integrated Safety Management System (ISMS). This organization regards employee protection as a priority and is committed to developing, implementing, and improving safety and health practices that will afford optimal protection to employees and enable continuous improvement of the quality of worker protection performance. The safety and health of employees will take precedence whenever conflicts with production or other objectives arise.

This document describes the Worker Safety and Health Program (WSHP) used by SEC and its subcontractors to ensure that safety is integrated into work performed under contract between SEC and the U.S. Department of Energy (DOE). This WSHP described herein applies to work performed or subcontracted by SEC at WVDP and applies to all activities conducted by SEC or its subcontractors.

### **1.2 Scope of Work**

SEC shall perform environmental characterization support services including, but not limited to, soil, sediment, and groundwater characterization; environmental monitoring; and associated regulatory documentation supporting decommissioning activities at the WVDP site to support DOE in satisfying regulatory requirements in the West Valley Demonstration Project Act of 1980 and the New York State Energy and Research Development Authority (NYSERDA)/DOE Cooperative Agreements. Services required under this contract include: comprehensive environmental task-based characterization services, including but not limited to: work plan development and documentation, field data collection and sample analyses, civil survey support, non-intrusive geophysical data collection, buried infrastructure identification and mapping, data management, data validation, data reduction, interpretation and presentation, statistics, geographic information system products, field summary reports, data summary reports (i.e., summary of data verification, validation, and assessment), and technical oversight of field investigation activities. Onsite activities will include subsurface field services (e.g., well drilling, soil borings, cone penetrometer testing, geotechnical data collection, and related services) as well as surface soil, groundwater, surface water, and stream sediment characterization. Non-intrusive and field screening capabilities may be required (e.g., gamma walkover surveys, down-hole gamma surveys, non-intrusive geophysical surveys, etc.). In addition, routine site-wide monitoring activities may be required, including but not limited to, air, surface water, groundwater, sediment, soil, direct exposure, and biota monitoring. Investigation-derived waste (IDW) management and disposition will also be included. As part of characterization activities, SEC may also deploy and support in-field laboratory capabilities (radiological and chemical) as required and appropriate. SEC will make all attempts to follow the Triad approach to these characterization efforts, thereby incorporating the three primary concepts of Triad, including systematic planning, dynamic work strategies, and real-time measurement systems. SEC will follow the guidance established in the Multi-Agency Radiation Survey and Site Investigation

Manual (MARSSIM) when implementing final status surveys (FSSs) for demonstrating site closure.

Environmental data collection activities will be undertaken to support specific WVDP Phase I decommissioning activities at the site as specified in individual Task Orders. Task Orders may be organized by data collection type (e.g., site-wide gamma walk-over survey) or data collection purpose (e.g., FSS data collection). Examples of site-specific activities include (but are not limited to): (1) pre-design WVDP Phase I decommissioning data collection to determine the nature and extent of surface and subsurface soil, sediment, and groundwater contamination consistent with WVDP Phase I decommissioning plan data needs; (2) data collection to support FSS requirements for areas undergoing remediation to meet site-specific derived concentration guideline levels (DCGL) as specified in the Phase I decommissioning plan; (3) environmental data collection required to support the removal of contaminated media as required by specific decommissioning activities; and (4) routine site-wide environmental monitoring activities. The contract may have many tasks occurring simultaneously.

Examples of data collection-type activities include (but are not limited to): (1) gamma walkover surveys to characterize surface soil contamination; (2) non-intrusive geophysical surveys to identify and map buried infrastructure; (3) civil surveys to determine surface topography and to determine the coordinates of specific features of interest; (4) intrusive data collection including soil cores, GeoProbe cores, test pits, etc. resulting in obtaining samples submitted for analysis; (5) installation of permanent and temporary groundwater data collection points; and (6) field screening of environmental samples for radiological, chemical, or physical parameters of interest. SEC shall be responsible for the management of all IDW types generated in support of characterization activities including characterization, certification, permitting, storage, treatment, transport, and disposal.

### **1.3 Interfaces**

The SEC project management office will manage the communication interfaces to ensure schedules are integrated and each interface is aligned with planning objectives. SEC will work closely with DOE, NYSERDA, and the existing managing site contractor on-site, and others to prevent any disruption to their missions and to ensure that there are no adverse impacts to DOE, NYSERDA, or managing site contractor.

When it becomes advantageous to DOE, SEC, and the managing site contractor, formal interface agreements to purchase services from the managing site contractor will be established. The mutually agreed upon Interface Agreements with the managing site contractor will be incorporated into our programs, processes, and procedures. The requirements of these programs will turn into flow down to the programs, processes, and procedures of our subcontractors.

Interface agreements between SEC and the managing site contractor, if any, will be developed prior to using the service.

Important reasons for written agreements of this type are to define the scope of work and clearly establish roles and responsibilities particularly related to worker safety and health.

## 2.0 ROLES AND RESPONSIBILITIES

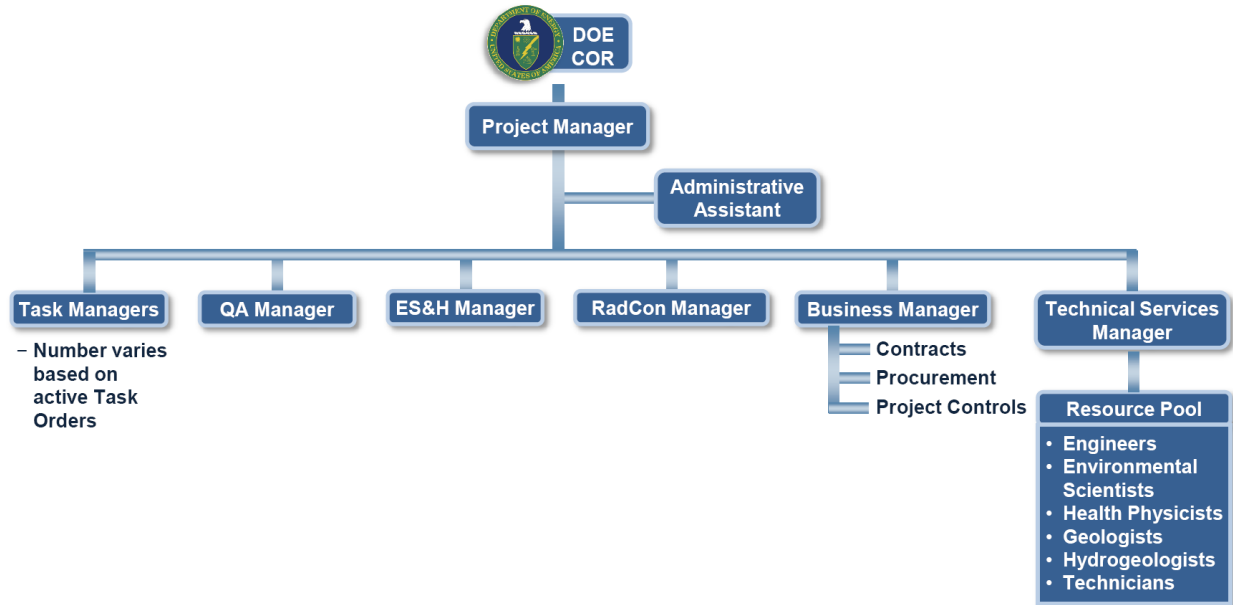
### 2.1 Responsibility Matrix

Managers at all levels, support staff, and workers have integrated environmental, safety, and health (ES&H) into their work activities, including business planning and operations. Responsibilities pertaining to ES&H for each level of the organization are defined as follows:

Role	Responsible/Accountable for:
Project Manager	<ul style="list-style-type: none"> <li>• Building awareness by explaining and communicating its commitment to policies and values relative to ES&amp;H performance.</li> <li>• Ensuring that activities conform to ES&amp;H related policies, laws, regulations, and internal procedural requirements.</li> <li>• Assigning work and measuring performance.</li> </ul>
ES&H Manager	<ul style="list-style-type: none"> <li>• Ensuring that ES&amp;H management system requirements are established, implemented, and maintained.</li> <li>• Approves the use of a Contractor-specific WSHP and training, as applicable.</li> <li>• Reporting on the performance of the ES&amp;H management system to management for review and as a basis for continuous improvement.</li> </ul>
SEC On-site Representative (Project Manager)	<p>Accepting responsibility and accountability for ES&amp;H performance associated with the work performed under their direct supervision, including:</p> <ol style="list-style-type: none"> <li>a) determining and allocating the resources necessary to comply with ES&amp;H related policies, laws, regulations, and program requirements;</li> <li>b) ensuring that associates operate in strict compliance with the policies and applicable procedural requirements in command media;</li> <li>c) making associates aware of their roles and responsibilities relative to the ES&amp;H programs, including emergency preparedness and response;</li> <li>d) determining and ensuring completion of training requirements for their associates;</li> <li>e) motivating associates to continually improve through encouragement to make suggestions to improve ES&amp;H performance and recognition for effecting associated improvements; and</li> <li>f) controlling processes, including suspension of operations for ES&amp;H reasons.</li> </ol>
Support Staff and Workers	<p>Committing and adhering to ES&amp;H related plans, procedures, policies, values, and requirements, by:</p> <ol style="list-style-type: none"> <li>a) accepting accountability, within the scope of their responsibilities, for ES&amp;H performance;</li> <li>b) taking responsibility for ES&amp;H improvements;</li> <li>c) anticipating and initiating action including suspension of operations to preclude any nonconformance relating to the ES&amp;H management system;</li> <li>d) identifying and recording any ES&amp;H problems;</li> <li>e) initiating, recommending, or providing solutions to problems and verifying the implementation of solutions; and</li> <li>f) controlling further ES&amp;H program activities related to an area of nonconformance until the deficiency or unsatisfactory condition has been corrected.</li> </ol>

## 2.2 Organization Chart

Below is the typical organizational structure used by SEC. Additions and deletions to this structure will be based on the specific project needs.





### **3.0 FLOWDOWN OF WORKER SAFETY AND HEALTH REQUIREMENTS**

#### **3.1 Procurement Interface**

SEC will utilize a procurement program as implemented by its Corporate offices in support of the mission. Procurement will be managed in accordance with specific DOE Contract requirements. Procurement methods are defined in SEC-Q-04, *Procurement Document Control*, and comply with the prime contract, applicable laws, best commercial practices, and program requirements. Supplies and services are procured in a manner that provides the best value to the DOE and includes, but is not limited to, the consideration of such factors as price, quality, schedule, and ISMS.

#### **3.2 Subcontractors**

All subcontractors perform their work according to the requirements of this WSHP. SEC shall flow down safety and health requirements to subcontractors and suppliers at any tier to the extent necessary to ensure compliance with the requirements of the prime contract and assure subcontractors adopt and use applicable requirements of this WSHP. Applicable requirements shall be a part of the terms and conditions of agreement in each subcontract prior to commencing work. Subcontractor employees must be provided with safety and health training commensurate with the scope and complexity of the work to be performed through the SEC training program SEC-Q-02, *Training and Qualifications*.



## **4.0 IMPLEMENTING PROCESSES**

### **4.1 Overview**

A successful WSHP results only when implemented at every level of the organization and yields zero-accident performance. This WSHP is designed to ensure this principle is realized.

### **4.2 Safety Commitment**

SEC is committed to the zero-accident performance philosophy: “zero” injuries, “zero” occupational illnesses, “zero” unsafe conditions, and “zero” willful unsafe acts. This commitment reflects SEC’s core value of safety and reflects our Company management philosophy that all incidents and accidents are preventable. SEC’s corporate management team is committed to ensuring that task order (on-site) Project Management teams are provided the resources they need to achieve “zero” accident performance at which point they are held accountable for safety performance. Employees at every level of the organization are empowered and expected to take personal responsibility for planning and executing work in a manner that reduces the chance for accidents. This responsibility includes the expectation that work is performed in compliance with appropriate federal, state, and local statutes, and DOE regulations, orders, and contractual obligations. A key piece of this responsibility is that every employee not only has the right, but the responsibility to stop work that is unsafe. SEC believes that safety excellence is vital to the success of our business.

### **4.3 Development and Approval of the Worker Safety and Health Program (10 CFR 851.11)**

#### **4.3.1 Preparation, Evaluation, and Approval**

Preparation, review, and approval of this WSHP is in accordance with SEC-Q-05, *Instructions and Procedures*, and SEC-Q-06, *Document Control* procedure. Guidelines for revising, required review, and significance of changes are specified in SEC-WSHP-02, *Worker Safety and Health Program Administration*.

#### **4.3.2 Program**

SEC is committed to perform work in conformance with this WSHP. This document is a requirement of 10 Code of Federal Regulations (CFR) 851.11. Upon initial DOE approval of this document, any changes that affect the objective, principles, or functions must also be approved by DOE. SEC may make editorial changes to this document without DOE approval.

As the scope of the project, project work, and internal and external requirements change, it is recognized that SEC may have to add, delete, and modify safety requirements. SEC will review this document annually against the then current WSHP expectations and changes to implementing or supporting programs or procedures and will take one of the following actions:

- Submit a revision of this WSHP for DOE approval or
- Submit a letter to DOE indicating no change to this WSHP.

All changes to the WSHP, whether significant or editorial in nature, will be tracked via a plan/procedure change process and kept in the plan/procedure history file or as part of the plan/procedure itself.

#### **4.4 Implementation (10 CFR 851.12)**

Programs, procedures, and plans are used to implement the requirements of the WSHP. Appendix A, Implementation/Compliance Matrix for 10 CFR 851, lists the applicable program procedure and/or plan that implements that specific requirement. Procedures/plans are written, reviewed, and approved in accordance with SEC-Q-05, *Instructions and Procedures*. All procedures/plans go through a multidisciplinary review process. This review process ensures that the appropriate requirements from this Rule remain embedded into the appropriate procedure/plan and ensures SEC remains compliant with the Rule.

At the activity level, implementation of worker protection is achieved by the appropriate tailoring of controls through hazard analysis, prioritization based on the severity/type of hazard, and the complexity of the work. Worker involvement has been institutionalized through the work control procedure SEC-ISMS-002, *Project Integrated Work Control Plan*.

#### **4.5 Compliance (10 CFR 851.13)**

Implementation of this WSHP is essential to the safe performance of work. To achieve the DOE and SEC objective of performing work safely, this WSHP must be implemented during the planning and performance of all types of potentially-hazardous work, including construction, maintenance, operation, and decommissioning, as well as design, safety analyses, and risk analyses. All types of potential worker hazards including industrial, chemical, occupational, electrical, and transportation must be recognized, and appropriate controls specified before work begins. The identification, analysis, and control of hazards, and the use of feedback mechanisms for continuous improvement in the definition, planning, and performance of work are critical elements of this WSHP.

#### **4.6 Management Responsibilities and Worker Rights and Responsibilities (10 CFR 851.20)**

##### **4.6.1 Management Responsibilities**

Management and workers' responsibilities as related to this WSHP are defined in Section 2.0.

SEC will hire sufficient numbers of competent, qualified worker safety and health staff (e.g., a certified industrial hygienist or safety professional) to direct, manage, and implement this WSHP.

#### **4.6.2 Worker Rights and Responsibilities**

The maintenance of safe and healthful working conditions is the responsibility of every SEC and subcontractor employee. The Contractor Worker Safety and Health Poster will be posted in various areas of the worksite.

SEC will post the Contractor Worker Safety and Health Poster in sufficient numbers at the worksite(s) to allow workers to view the poster en route to and from the workplace and in conspicuous locations where employee information is routinely posted. The poster can be found at (<http://www.hss.doe.gov/HealthSafety/WSHP/rule851/safeworkplace6-07-final.pdf>). SEC will add relevant project contact information.

In addition, SEC establishes worker rights and responsibilities in the following documents:

- SEC-POL-HR-3002, *Employee Concerns Program*;
- SEC-IH-01, *Industrial Hygiene Monitoring Program*; and
- SEC-ISMS-002, *Project Integrated Work Control Plan*.

#### **4.7 Hazard Identification and Assessment (10 CFR 851.21)**

It is the policy of SEC to conduct hazards analyses during the work planning process for proposed activities prior to the commencement of work. An integral part of this policy is the participation by Subject Matter Experts (SMEs) to ensure that chemical, fire, explosion, emergency preparedness, construction, and industrial hygiene and safety hazards have been appropriately identified and addressed.

Policies and procedures are the primary mechanisms for triggering hazard analysis. SMEs, job planners, supervisors, and workers are required, during all phases of work, to identify hazards. Hazard identification tools are incorporated into SEC-ISMS-002, *Project Integrated Work Control Plan*, for use at the design and task levels to assist job planners in identifying areas where mitigation and control of the hazard can be pre-planned with SMEs and workers.

Walkdowns, mockups, job safety analysis, and pre-job briefings give the job planners and workers additional opportunities to communicate and understand the nature and complexity of the work. SEC utilizes standard techniques for safety and hazard analysis and communicates the expectations for ensuring that project safety is maintained.

SEC establishes hazard identification and assessment responsibilities through the following documents:

- SEC-IH-01, *Industrial Hygiene Monitoring Program*;
- SEC-ISMS-002, *Project Integrated Work Control Plan*; and
- SEC-WSHP-05, *Facility Acceptance Process*.

#### **4.8 Hazard Prevention and Abatement (10 CFR 851.22)**

Hazards and their control mechanisms are communicated to SEC and subcontractor workforce through standard policies, procedures, activity hazard analyses (AHAs), and other

communication methods. Individual tasks rely on job briefings, industrial work permits, radiation work permits, and other hazard-specific mechanisms to communicate the complexity and nature of the hazard and the barriers used to protect the worker. Employees are responsible for understanding the SOW, through pre-job walkdowns and/or pre-job briefings, including the hazards and controls, prior to initiating a task. Job planners are required to consult SMEs to provide an integrated review of the hazards and proposed controls to ensure the strategy for mitigation of one hazard does not increase risk or change the mitigation strategy for another.

SEC utilizes a hierarchy of controls to provide maximum employee protection:

- Substitution of hazardous materials with less hazardous materials;
- Engineering controls include equipment designs, modifications, or eliminations that provide worker protection. Engineering controls are the first choice in the hierarchy of controls; designing a system to be inherently safe;
- Administrative controls also provide protection by using policies, procedures, work practices, training, signs, and other administrative means; and
- Personal protective equipment (PPE) is to be used after engineering and administrative controls have been used and cannot provide appropriate employee protection. PPE is to be provided, used, and maintained in reliable condition, wherever necessary, to prevent injury.

#### **4.9 Safety and Health Standards (10 CFR 851.23)**

SEC Safety and Health Standards are implemented through the following documents:

- SEC-WSHP, *Worker Safety and Health Program* – Implements:
  - 29 CFR 1904.4 through 1904.11, 1904.29 through 1904.33, 1904.44 and 1904.46, *Recording and Reporting Occupational Injuries and Illnesses*;
  - 29 CFR 1910, *Occupational Safety and Health Standards*;
  - 29 CFR 1926, *Safety and Health Regulations for Construction*;
  - *American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* (2005);
  - ANSI Z88.2, *American National Standard for Respiratory Protection* (1992);
  - ANSI Z136.1, *Safe Use of Lasers* (2000); and
  - NFPA 70, *National Electric Code* (2005); and NFPA 70E, *Standard for Electrical Safety in the Workplace* (2004).
- SEC-SB-20, *Fire Protection Program* – Implements ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes* (1999).
- SEC-WSHP-03, *Environment, Safety, and Health Reporting*, and SEC-ISMS-004, *Event Investigation and Reporting* – Implements:
  - 29 CFR 1904.4 through 1904.11, 1904.29 through 1904.33, 1904.44 and 1904.46, *Recording and Reporting Occupational Injuries and Illnesses*, and
  - DOE M 231.1-1A, *Environment, Safety, and Health Reporting Manual*.

## **4.10 Functional Areas (10 CFR 851.24)**

### **4.10.1 Construction Safety**

Construction activities are planned in accordance with the Integrated Work Control. Work documents will contain the requirements for safety and health during construction activities.

Unless otherwise specifically designated by the work document, the designated representative for construction safety at the project is the ES&H Safety Representative. Elements and requirements necessary to implement construction activities are contained in the Worker Safety and Health Plan:

- SEC-ISMS-002, *Project Integrated Work Control Plan* and
- SEC-WSHP, *Worker Safety and Health Plan*.

### **4.10.2 Fire Protection**

SEC-SB-20, *Fire Protection Program*, establishes requirements for a comprehensive fire and related hazards protection program. The objectives of the program are to minimize the potential for:

- The occurrence of a fire or related event;
- A fire that causes an unacceptable on-site or off-site release of hazardous or radiological material that will threaten the health and safety of employees, the public, or the environment;
- Vital DOE programs suffering unacceptable interruptions as a result of fire and related hazards;
- Property losses from a fire and related events exceeding defined limits established by DOE; and
- Critical process controls and safety class systems being damaged as a result of a fire and related events.

SEC-SB-20 also describes the fire protection organizational elements and responsibilities, additional fire protection procedures, and the relationship between SEC and the WVDP Fire Department, which includes emergency response as well as other services.

### **4.10.3 Explosives Safety**

The activities planned under the current SEC scope of work does not include the use of explosive devices requiring implementation of explosives safety. Prior to any use of explosive materials by SEC, a revision to this WSHP would be submitted to DOE for approval.

### **4.10.4 Pressure Safety**

Safety policies and procedures are in place to ensure that pressure systems are designed, fabricated, tested, inspected, maintained, repaired, and operated by trained and qualified personnel in accordance with applicable and sound engineering principles. SEC and its subcontractors shall consider pressure relief devices, piping, fittings, gauges, valves, pumps, heat exchangers, and associated pressure-retaining hardware to be part of pressure systems and shall

subject these devices and hardware to protection measures that are equivalent to codes per Appendix A, Section 4.(c) of the Rule. The SEC Quality Assurance Plan (SEC-QAP) includes training and qualification requirements for inspection, test, and non-destructive examination (NDE).

#### **4.10.5 Firearms Safety**

The level of security required for execution of SEC's work scope and location within the WVDP protective boundaries do not require an armed protective force be utilized by SEC. This section is not applicable.

#### **4.10.6 Industrial Hygiene**

As described in Section 3.0 above, the industrial hygiene monitoring program is an integral component of hazard assessment, control, and monitoring. SEC establishes industrial hygiene responsibilities in SEC-IH-01.

#### **4.10.7 Biological Safety**

Biological safety is not applicable to the current SEC work scope; however, biological hazards exist as part of everyday activities and potential first response to injuries. SEC does not handle etiologic agents. The ES&H procedures address potential biological hazards in SEC-IH-12, *Bloodborne Pathogens*, and SEC-IH-13, *Biological Hazards*, that may be encountered during project activities.

#### **4.10.8 Occupational Medicine**

SEC recognizes that health maintenance is a responsibility of both the individual employee and the employer. Prevention, early detection, and mitigation of occupationally-related injury or disease are paramount in managing and maintaining worker health. Open communication and informed consent is provided by conforming to the Worker Bill of Rights and Worker Responsibilities. This is presented in SEC-IH-03, *Occupational Medicine*.

#### **4.10.9 Motor Vehicle Safety**

SEC maintains a program for the safe operation of motor vehicles on the project. SEC-IS-12, *Motor Vehicle and Powered Industrial Trucks*, applies to all SEC and subcontractor personnel who operate motor vehicles within the project. It includes the basic program for safe operation of vehicles.

#### **4.10.10 Electrical Safety**

Safety-related work practices are employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts. SEC-IS-02, *Electrical Safety*, implements electrical safety requirements at the project.



#### **4.11 Training and Information (10 CFR 851.25)**

The SEC training program is governed by the SEC-Q-02, *Training and Qualifications*. This procedure describes the various requirements for defining, developing, and implementing training at the project. An access database tracks required and completed training.

#### **4.12 Record Keeping and Reporting (10 CFR 851.26)**

In addition to the programs previously described, SEC establishes record keeping and reporting requirements and responsibilities through the following documents:

- SEC-IH-08, *Hazard Communications*;
- SEC-Q-05, *Instructions and Procedures*;
- SEC-Q-06, *Document Control*;
- SEC-Q-17, *Records Management*;
- SEC-ISMS-004, *Incident Investigation and Reporting*; and
- SEC-WSHP-03, *Reporting and Recording Occupational Injuries and Illnesses and Total Work Hours*.

#### **4.13 Reference Sources (10 CFR 851.27)**

SEC Safety and Health Standards are incorporated by reference through the following documents:

- SEC-IS & IH Series of procedures – Implements:
  - ANSI Z88.2, *American National Standard for Respiratory Protection* (1992);
  - ANSI Z136.1, *Safe Use of Lasers* (2000);
  - NFPA 70, *National Electric Code* (2005);
  - NFPA 70E, *Standard for Electrical Safety in the Workplace* (2004);
  - ACGIH, *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* (2005); and
- SEC-Q-04, *Procurement Document Control* – Implements:
  - *ASME Boilers and Pressure Vessel Code*, ASME B31, (*ASME Code for Pressure Piping*) including B31.1, *Power Piping* (2001);
  - B31.1a, *Addenda to B31.1* (2002);
  - B31.2, *Fuel Gas Piping* (1968);
  - B31.3, *Process Piping* (2002);
  - B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids* (2002);
  - B31.5, *Refrigeration Piping and Heat Transfer Components* (2001);
  - B31.5A, *Addenda to SME B31.5* (2001);
  - B31.8, *Gas Transmission and Distribution Piping Systems* (2003);
  - B31.8S, *Managing System Integrity of Gas Pipelines* (2001);
  - B31.9, *Building Services Piping* (1996);
  - B31.11, *Slurry Transportation Piping Systems* (2002); and
  - B31G, *Manual for Determining Remaining Strength of Corroded Pipelines* (1991); *American Society of Mechanical Engineers (ASME), Boilers and Pressure Vessel Code*, Sections I through XII including applicable code cases (2004).

- SEC-SB-20, *Fire Protection Program* – Implements ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes* (1999).
- SEC-WSHP-03, *Reporting and Recording Occupational Injuries and Illnesses and Total Work Hours* – Implements DOE Manual 231.1-1A, *Environment, Safety and Health Reporting Manual*, June 12, 2007.

## **5.0 VARIANCE PROCESS**

### **5.1 Application for Variance**

SEC may apply for a variance:

- If it is able to provide workers a place of employment as safe and healthful using alternate means as would result from compliance with the standard from which the variance is sought or
- Where the variance is necessary to avoid serious impairment of national defense.

If SEC applies for a variance, the applicable sections of Subpart D of this Rule will be followed.



**APPENDIX A**  
**IMPLEMENTATION/COMPLIANCE MATRIX FOR 10 CFR 851**



**APPENDIX A  
IMPLEMENTATION MATRIX FOR 10 CFR 851**

Requirement	Implementing SEC Policy/Procedure
<b>§ 851.11 Development and approval of worker safety and health program</b>	
(c) Updates. (1) Contractors MUST submit an update of the worker safety and health program to the appropriate Head of DOE WVDP Field Element, for review and approval whenever a significant change or addition to the program is made, or a change in contractors occurs.	SEC-WSHP-02
(2) Contractors MUST submit annually to DOE either an updated worker safety and health program for approval or a letter stating that no changes are necessary in the currently approved worker safety and health program.	SEC-WSHP-02
(3) Contractors MUST incorporate in the worker safety and health program any changes, conditions, or workplace safety and health standards directed by DOE consistent with the requirements of this part and DEAR 970.5204–2, Laws, regulations and DOE Directives(December, 2000) and associated contract clauses.	SEC-WSHP
(d) Labor Organizations. If a contractor employs or supervises workers who are represented for collective bargaining by a labor organization, the contractor MUST: (1) Give the labor organization timely notice of the development and implementation of the worker safety and health program and any updates thereto; and (2) Upon timely request, bargain concerning implementation of this part, consistent with the Federal labor laws.	Local Unions will be involved and the union workers will be given an opportunity to review the WSHP as prescribed by this requirement.
<b>§ 851.12 Implementation</b>	
(a) Contractors MUST implement the requirements of this part.	
<b>§ 851.13 Compliance</b>	
(a) Contractors MUST achieve compliance with all the requirements of Subpart C of this part, and their approved worker safety and health program no later than May 25, 2007. Contractors may be required to comply contractually with the requirements of this rule before February 9, 2007.	
(b) In the event a contractor has established a written safety and health program, an Integrated Safety Management System (ISMS) description pursuant to the DEAR Clause, or an approved Work Smart Standards (WSS) process before the date of issuance of the final rule, the Contractor may use that program, description, or process as the worker safety and health program required by this part if the appropriate Head of the DOE WVDP Field Element approves such use on the basis of written documentation provided by the contractor that identifies the specific portions of the program, description, or process, including any additional requirements or implementation methods to be added to the existing program, description, or process, that satisfy the requirements of this part and that provide a workplace as safe and healthful as would be provided by the requirements of this part.	This section only applies to initial rule implementation.
(c) Nothing in this part SHALL be construed to limit or otherwise affect contractual obligations of a contractor to comply with contractual requirements that are not inconsistent with the requirements of this part.	

<b>APPENDIX A IMPLEMENTATION MATRIX FOR 10 CFR 851</b>	
<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<b>Subpart C – Specific Program Requirements</b>	
<b>§ 851.20 Management Responsibilities and Worker Rights and Responsibilities</b>	
(a) Management responsibilities. Contractors are responsible for the safety and health of their workforce and MUST ensure that contractor management at a covered workplace:	
(1) Establish written policy, goals, and objectives for the worker safety and health program;	<b>SEC-WSHP</b>
(2) Use qualified worker safety and health staff (e.g., a certified industrial hygienist, or safety professional) to direct and manage the program;	<b>SEC-WSHP</b>
(3) Assign worker safety and health program responsibilities, evaluate personnel performance, and hold personnel accountable for worker safety and health performance;	<b>SEC-WSHP SEC-WSHP-02</b>
(4) Provide mechanisms to involve workers and their elected representatives in the development of the worker safety and health program goals, objectives, and performance measures and in the identification and control of hazards in the workplace;	<b>SEC-ISMS SEC-WSHP, Worker’s Bill of Rights SEC-ISMS-002</b>
(5) Provide workers with access to information relevant to the worker safety and health program;	<b>SEC-WSHP SEC-ISMS</b>
(6) Establish procedures for workers to report without reprisal job-related fatalities, injuries, illnesses, incidents, and hazards and make recommendations about appropriate ways to control those hazards;	<b>SEC-WSHP SEC-ISMS</b>
(7) Provide for prompt response to such reports and recommendations;	<b>SEC-WSHP SEC-ISMS</b>
(8) Provide for regular communication with workers about workplace safety and health matters;	<b>SEC-WSHP</b>
(9) Establish procedures to permit workers to stop work or decline to perform an assigned task because of reasonable belief that the task poses an imminent risk of death, serious physical harm, or other serious hazard to workers, in circumstances where the workers believe there is insufficient time to utilize normal hazard reporting and abatement procedures; and	<b>SEC-WSHP-04 SEC-WSHP</b>
(10) Inform workers of their rights and responsibility by appropriate means, including posting the DOE-designated Worker Protection Poster in the workplace where it is accessible to all workers.	<b>SEC-WSHP</b>
(b) Worker rights and responsibilities. Workers MUST comply with the requirements of this part, including the worker safety and health program, which are applicable to their own actions and conduct. Workers at a covered workplace have the right, without reprisal, to:	<b>SEC-WSHP, Master Safety Rules</b>
(1) Participate in activities described in this section on official time;	<b>SEC-WSHP, Workers’ Bill of Rights</b>
(2) Have access to: (i) DOE safety and health publications; (ii) The worker safety and health program for the covered workplace;	<b>SEC-WSHP, Workers’ Bill of Rights</b>



**APPENDIX A  
IMPLEMENTATION MATRIX FOR 10 CFR 851**

<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(iii) The standards, controls, and procedures applicable to the covered workplace; (iv) The safety and health poster that informs the worker of relevant rights and responsibilities; (v) Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions; and (vi) The DOE Form 5484.3 (the DOE equivalent to OSHA Form 301) that contains the employee’s name as the injured or ill worker;	
(3) Be notified when monitoring results indicate the worker was overexposed to hazardous materials;	<b>SEC-IH-01</b>
(4) Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring;	<b>SEC-WSHP, Worker’s Bill of Rights, and SEC-IH-01</b>
(5) Have a representative authorized by employees accompany the Director or his authorized personnel during the physical inspection of the workplace for the purpose of aiding the inspection. When no authorized employee representative is available, the Director or his authorized representative <b>MUST</b> consult, as appropriate, with employees on matters of worker safety and health;	<b>SEC-WSHP</b>
(6) Request and receive results of inspections and accident investigations;	<b>SEC-WSHP, Worker’s Bill of Rights SEC-ISMS-004</b>
(7) Express concerns related to worker safety and health;	<b>SEC-WSHP SEHC-POL-HR-3002</b>
(8) Decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker coupled with a reasonable belief that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures; and	<b>SEC-WSHP SEHC-POL-HR-3002 SEC-WSHP-04</b>
(9) Stop work when the worker discovers employee exposures to imminently dangerous conditions or other serious hazards; provided that any stop work authority <b>MUST</b> be exercised in a justifiable and responsible manner in accordance with procedures established in the approved worker safety and health program.	<b>SEC-WSHP SEC-WSHP-04</b>
<b>§ 851.21 Hazard Identification and Assessment</b>	
(a) Contractors <b>MUST</b> establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness. Procedures <b>MUST</b> include methods to:	<b>SEC-ISMS SEC-ISMS-002 SEC-WSHP SEC-IH-01 SEC-IH-02 SEC-IH-08</b>
(1) Assess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring;	<b>SEC-IH-01</b>
(2) Document assessment for chemical, physical, biological, and safety workplace hazards using recognized exposure assessment and testing methodologies and using of accredited and certified laboratories;	<b>SEC-IH-01</b>
(3) Record observations, testing and monitoring results;	<b>SEC-IH-01</b>

<b>APPENDIX A IMPLEMENTATION MATRIX FOR 10 CFR 851</b>	
<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(4) Analyze designs of new facilities and modifications to existing facilities and equipment for potential workplace hazards;	<b>SEC-ISMS-002 SEC-WSHP</b>
(5) Evaluate operations, procedures, and facilities to identify workplace hazards;	<b>SEC-ISMS-002</b>
(6) Perform routine job activity-level hazard analyses;	<b>SEC-ISMS-002</b>
(7) Review site safety and health experience information; and	<b>SEC-ISMS-002</b>
(8) Consider interaction between workplace hazards and other hazards such as radiological hazards.	<b>SEC-ISMS-002</b>
(b) Contractors MUST submit to the Head of DOE WVDP Field Element a list of closure facility hazards and the established controls within 90 days after identifying such hazards. The Head of DOE Field Element, with concurrence by the Cognizant Secretarial Officer, has 90 days to accept the closure facility hazard controls or direct additional actions to either: (1) Achieve technical compliance; or (2) Provide additional controls to protect the workers.	Because some of the facilities that SEC will be accepting “Operational Responsibility” may not fully conform to some of the Standards codified by reference in 10 CFR 851, SEC will utilize this provision. <b>SEC-WSHP-05</b>
(c) Contractors MUST perform the activities identified in paragraph (a) of this section, initially to obtain baseline information and as often thereafter as necessary to ensure compliance with the requirements in this Subpart.	<b>SEC-IH-02</b>
<b>§ 851.22 Hazard Prevention and Abatement</b>	
(a) Contractors MUST establish and implement a hazard prevention and abatement process to ensure that all identified and potential hazards are prevented or abated in a timely manner.	<b>SEC-ISMS-002</b>
(1) For hazards identified either in the facility design or during the development of procedures, controls MUST be incorporated in the appropriate facility design or procedure.	<b>SEC-ISMS-002</b>
(2) For existing hazards identified in the workplace, contractors MUST: (i) Prioritize and implement abatement actions according to the risk to workers; (ii) Implement interim protective measures pending final abatement; and (iii) Protect workers from dangerous safety and health conditions;	<b>SEC-ISMS-002</b>
(b) Contractors MUST select hazard controls based on the following hierarchy: (1) Elimination or substitution of the hazards where feasible and appropriate; (2) Engineering controls where feasible and appropriate; (3) Work practices and administrative controls that limit worker exposures; and (4) Personal protective equipment.	<b>SEC-ISMS-002</b>
(c) Contractors MUST address hazards when selecting or purchasing equipment, products, and services.	<b>SEC-WSHP</b>

<b>APPENDIX A IMPLEMENTATION MATRIX FOR 10 CFR 851</b>	
<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<b>§ 851.23 Safety and Health Standards</b>	
(a) Contractors MUST comply with the following safety and health standards that are applicable to the hazards at their covered workplace:	<b>SEC-WSHP</b>
(1) Title 10 Code of Federal Regulations (CFR) 850, Chronic Beryllium Disease Prevention Program.	SEC to submit approach to DOE under separate cover if work scope involves probable exposure to beryllium. <b>SEC-WSHP</b>
(2) Title 10 CFR 835, Occupational Radiation Protection.	<b>SEC-RPP</b>
(3) Title 29 CFR, Parts 1904.4 through 1904.11, 1904.29 through 1904.33; 1904.44, and 1904.46, Recording and Reporting Occupational Injuries and Illnesses.	<b>SEC-WSHP</b> <b>SEC-WSHP-02</b> <b>SEC-WSHP-03</b>
(4) Title 29 CFR, Part 1910, Occupational Safety and Health Standards, excluding 29 CFR 1910.1096, Ionizing Radiation.	<b>SEC-WSHP</b>
(5) Title 29 CFR, Part 1915, Shipyard Employment. (6) Title 29 CFR, Part 1917, Marine Terminals. (7) Title 29 CFR, Part 1918, Safety and Health Regulations for Longshoring.	N/A
(8) Title 29 CFR, Part 1926, Safety and Health Regulations for Construction.	<b>SEC-WSHP</b>
(9) Title 29 CFR, Part 1928, Occupational Safety and Health Standards for Agriculture.	N/A
(10) American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, (2005) (incorporated by reference, see § 851.27) when the ACGIH Threshold Limit Values (TLVs) are lower (more protective) than permissible exposure limits in 29 CFR 1910. When the ACGIH TLVs are used as exposure limits, contractors MUST nonetheless comply with the other provisions of any applicable expanded health standard found in 29 CFR 1910.	<b>SEC-WSHP</b>
(11) American National Standards Institute (ANSI) Z88.2, American National Standard for Respiratory Protection, (1992) (incorporated by reference, see § 851.27).	<b>SEC-IH-04</b>
(12) ANSI Z136.1, Safe Use of Lasers, (2000) (incorporated by reference, see § 851.27).	<b>SEC-IH-15, applicable to laser pointers</b>
(13) ANSI Z49.1, Safety in Welding, Cutting and Allied Processes, Sections 4.3 and E4.3 (1999) (incorporated by reference, see § 851.27).	<b>SEC-SB-22</b>
(14) National Fire Protection Association (NFPA) 70, National Electrical Code, (2005) (incorporated by reference, see § 851.27).	<b>SEC-IS-02</b>
(15) NFPA 70E, Standard for Electrical Safety in the Workplace, (2004) (incorporated by reference, see § 851.27).	<b>SEC-IS-02</b>
(b) Nothing in this part MUST be construed as relieving a contractor from complying with any additional specific safety and health requirement that it determines to be necessary to protect the safety and health of workers.	<b>SEC-WSHP</b>

**APPENDIX A  
IMPLEMENTATION MATRIX FOR 10 CFR 851**

<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<b>§ 851.24 Functional Areas</b>	
(a) Contractors MUST have a structured approach to their worker safety and health program which at a minimum, includes provisions for the following applicable functional areas in their worker safety and health program: construction safety; fire protection; firearms safety; explosives safety; pressure safety; electrical safety; industrial hygiene; occupational medicine; biological safety; and motor vehicle safety.	<b>SEC-WSHP IS and IH series of procedures</b>
(b) In implementing the structured approach required by paragraph (a) of this section, contractors MUST comply with the applicable standards and provisions in Appendix A of this part, entitled Worker Safety and Health Functional Areas.	See Appendix A to Part 851 – Worker Safety and Health Functional Areas of this matrix.
<b>§ 851.25 Training and Information</b>	
(a) Contractors MUST develop and implement a worker safety and health training and information program to ensure that all workers exposed or potentially exposed to hazards are provided with the training and information on that hazard in order to perform their duties in a safe and healthful manner.	<b>SEC-WSHP SEC-Q-02</b>
(b) The contractor MUST provide: (1) Training and information for new workers, before or at the time of initial assignment to a job involving exposure to a hazard; (2) Periodic training as often as necessary to ensure that workers are adequately trained and informed; and (3) Additional training when safety and health information or a change in workplace conditions indicates that a new or increased hazard exists.	<b>SEC-WSHP SEC-Q-02</b>
(c) Contractors MUST provide training and information to workers who have worker safety and health program responsibilities that is necessary for them to carry out those responsibilities.	<b>SEC-WSHP SEC-Q-02</b>
<b>§ 851.26 Recordkeeping and Reporting</b>	
(a) Recordkeeping. Contractors MUST: (1) Establish and maintain complete and accurate records of all hazard inventory information, hazard assessments, exposure measurements, and exposure controls.	<b>SEC-IH-01 SEC-Q-17</b>
(2) Ensure that the work-related injuries and illnesses of its workers and subcontractor workers are recorded and reported accurately and consistent with DOE Manual 231.1–1A, Environment, Safety and Health Reporting Manual, June 12, 2007 (incorporated by reference, see § 851.27).	<b>SEC-WSHP-03 SEC-IH-01</b>
(3) Comply with the applicable occupational injury and illness recordkeeping and reporting workplace safety and health standards in § 851.23at their site, unless otherwise directed in DOE Manual 231.1–1A.	<b>SEC-WSHP SEC-WSHP-03 SEC-IH-01</b>
(4) Not conceal nor destroy any information concerning non-compliance or potential non-compliance with the requirements of this part.	<b>SEC-WSHP SEC-WSHP-03 SEC-IH-01 SEC-IH-02</b>

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(b) Reporting and investigation. Contractors MUST: (1) Report and investigate accidents, injuries and illness; and (2) Analyze related data for trends and lessons learned (Reference DOE O 225.1A, Accident Investigations, and November 26, 1997).	<b>SEC-WSHP SEC-WSHP-02 SEC-WSHP-03 SEC-ISMS-004 SEC-IH-01</b>
<b>§ 851.27 Reference sources</b>	
(a) Materials incorporated by reference. (1) General. The following standards which are not otherwise set forth in part 851 are incorporated by reference and made a part of part 851. The standards listed in this section have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. (2) Availability of standards. The standards incorporated by reference are available for inspection at: (i) National Archives and Records Administration (NARA). For more information on the availability of this material at NARA, call 202-741-6030, or go to: <a href="http://www.archives.gov/federal/register/code-of-federal-regulations/ibr-locations.html">http://www.archives.gov/federal/register/code-of-federal-regulations/ibr-locations.html</a> (ii) U.S. Department of Energy, Office of Environment, Safety and Health, Forrestal Building, 1000 Independence Ave., SW, Washington, DC 20585. (iii) American National Standards Institute Headquarters, 25 West 43rd Street, New York, NY 10036. Telephone number: 212-642-4980, or go to: <a href="http://www.ansi.org">http://www.ansi.org</a> . (iv) National Fire Protection Association, 1 Battery March Park, Quincy, MA 02169. Telephone: 617-770-3000, or go to: <a href="http://www.nfpa.org">http://www.nfpa.org</a> . (v) American Conference of Governmental Industrial Hygienists (ACGIH), 1330 Kemper Meadow Drive, Cincinnati, OH 45240. Telephone number 513-742-2020, or go to: <a href="http://www.acgih.org">http://www.acgih.org</a> . (vi) American Society of Mechanical Engineers (ASME), P.O. Box 2300 Fairfield, NJ 07007. Telephone: 800-843-2763, or go to: <a href="http://www.asme.org">http://www.asme.org</a> .	<b>SEC-WSHP</b>
(b) List of standards incorporated by reference. (1) American National Standards Institute (ANSI) Z88.2, American National Standard for Respiratory Protection (1992).	<b>SEC-IH-04</b>
(2) ANSI Z136.1, Safe Use of Lasers (2000).	<b>SEC-IH-15</b>
(3) ANSI Z49.1, Safety in Welding, Cutting and Allied Processes, Sections 4.3 and E4.3, (1999).	<b>SEC-SB-22</b>
(4) National Fire Protection Association (NFPA) 70, National Electrical Code, (2005).	<b>SEC-IS-02</b>
(5) NFPA 70E, Standard for Electrical Safety in the Workplace (2004).	<b>SEC-IS-02</b>
(6) American Conference of Governmental Industrial Hygienists, 'Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, (2005).	<b>SEC-IH-01</b>
(7) American Society of Mechanical Engineers (ASME) Boilers and Pressure Vessel Code, Sections I through XII including applicable Code Cases, (2004).	<b>SEC-Q-04</b>

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(8) ASME B31 (ASME Code for Pressure Piping) as follows: (i) B31.1—2001—Power Piping, and B31.1a—2002—Addenda to ASME B31.1—2001; (ii) B31.2—1968—Fuel Gas Piping; (iii) B31.3—2002—Process Piping; (iv) B31.4—2002—Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids; (v) B31.5—2001—Refrigeration Piping and Heat Transfer Components, and B31.5a—2004, Addenda to ASME B31.5—2001; (vi) B31.8—2003—Gas Transmission and Distribution Piping Systems; (vii) B31.8S—2001—Managing System Integrity of Gas Pipelines; (viii) B31.9—1996—Building Services Piping; (ix) B31.11—2002—Slurry Transportation Piping Systems; and (x) B31G—1991—Manual for Determining Remaining Strength of Corroded Pipelines	<b>SEC-Q-04</b>
(9) DOE Manual 231.1-1A, Environment, Safety and Health Reporting Manual, June 12, 2007.	<b>SEC-WSHP-02 SEC-WSHP-03</b>
(10) DOE Manual 440.1-1A, DOE Explosives Safety Manual, Contractor Requirements Document (Attachment2), January 9, 2006.	N/A
<b>Appendix A to Part 851 – Worker Safety and Health Functional Areas</b>	
<b>1. Construction Safety</b>	
(a) For each separately definable construction activity (e.g., excavations, foundations, structural steel, roofing) the construction contractor MUST:	<b>SEC-WSHP</b>
(1) Prepare and have approved by the construction manager an activity hazard analysis prior to commencement of affected work. Such analyses MUST: (i) Identify foreseeable hazards and planned protective measures; (ii) Address further hazards revealed by supplemental site information (e.g., site characterization data, as-built drawings) provided by the construction manager; (iii) Provide drawings and/or other documentation of protective measures for which applicable Occupational Safety and Health Administration (OSHA) standards require preparation by a Professional Engineer or other qualified professional, and (iv) Identify competent persons required for workplace inspections of the construction activity, where required by OSHA standards.	<b>SEC-ISMS-002</b>
(2) Ensure workers are aware of foreseeable hazards and the protective measures described within the activity analysis prior to beginning work on the affected activity.	<b>SEC-ISMS-002</b>
(3) Require that workers acknowledge being informed of the hazards and protective measures associated with assigned work activities. Those workers failing to utilize appropriate protective measures MUST be subject to the construction contractor’s disciplinary process.	<b>SEC-ISMS-002</b>

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(b) During periods of active construction (i.e., excluding weekends, weather delays, or other periods of work inactivity), the construction contractor MUST have a designated representative on the construction worksite who is knowledgeable of the project’s hazards and has full authority to act on behalf of the construction contractor. The contractor’s designated representative MUST make frequent and regular inspections of the construction worksite to identify and correct any instances of non-compliance with project safety and health requirements.	<b>SEC-WSHP</b>
(c) Workers MUST be instructed to report to the construction contractor’s designated representative, hazards not previously identified or evaluated. If immediate corrective action is not possible or the hazard falls outside of project scope, the construction contractor MUST immediately notify affected workers, post appropriate warning signs, implement needed interim control measures, and notify the construction manager of the action taken. The contractor or the designated representative MUST stop work in the affected area until appropriate protective measures are established.	<b>SEC-WSHP SEC-WSHP-04</b>
(d) The construction contractor MUST prepare a written construction project safety and health plan to implement the requirements of this section and obtain approval of the plan by the construction manager prior to commencement of any work covered by the plan. In the plan, the contractor MUST designate the individual (s) responsible for on-site implementation of the plan, specify qualifications for those individuals, and provide a list of those project activities for which subsequent hazard analyses are to be performed. The level of detail within the construction project safety and health plan SHOULD be commensurate with the size, complexity and risk level of the construction project. The content of this plan need not duplicate those provisions that were previously submitted and approved as required by § 851.11.	<b>SEC-ISMS-002 SEC-WSHP-02 IS and IH series of procedures</b>
<b>2. Fire Protection</b>	
(a) Contractors MUST implement comprehensive fire safety and emergency response program to protect workers commensurate with the nature of the work that is performed. This includes appropriate facility and site-wide fire protection, fire alarm notification and egress features, and access to a fully staffed, trained, and equipped emergency response organization that is capable of responding in a timely and effective manner to site emergencies.	<b>SEC-SB-20</b>
(b) An acceptable fire protection program MUST include those fire protection criteria and procedures, analyses, hardware and systems, apparatus and equipment, and personnel that would comprehensively ensure that the objective in paragraph 2 (a) of this section is met. This includes meeting applicable building codes and National Fire Protection Association codes and standards.	<b>SEC-SB-20</b>
<b>3. Explosives Safety (Not applicable based on current SEC operations as compared to DOE M 440.1-1A)</b>	
(a) Contractors responsible for the use of explosive materials MUST establish and implement a comprehensive explosives safety program.	<b>N/A</b>
(b) Contractors MUST comply with the policy and requirements specified in the DOE Manual 440.1–1A, DOE Explosives Safety Manual, Contractor Requirements Document(Attachment 2), January 9, 2006 (incorporated by reference, see § 851.27). A Contractor may choose a successor version, if approved by DOE.	
(c) Contractors MUST determine the applicability of the explosives safety directive requirements to research and development laboratory type operations consistent with the DOE level of protection criteria described in the explosives safety directive.	

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<b>4. Pressure Safety</b>	
(a) Contractors MUST establish safety policies and procedures to ensure that pressure systems are designed, fabricated, tested, inspected, maintained, repaired, and operated by trained and qualified personnel in accordance with applicable and sound engineering principles.	<b>SEC-Q-04</b>
(b) Contractors MUST ensure that all pressure vessels, boilers, air receivers, and supporting piping systems conform to: (1) The applicable American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (2004); Sections I through Section XII including applicable Code Cases (incorporated by reference, see § 851.27) (2) The applicable ASME B31 (Code for Pressure Piping) standards as indicated below; and or as indicated in paragraph (b)(3) of this section: (i) B31.1—2001—Power Piping, and B31.1a—2002—Addenda to ASME B31.1—2001 (incorporated by reference, see § 851.27); (ii) B31.2—1968—Fuel Gas Piping (incorporated by reference, see § 851.27); (iii) B31.3—2002—Process Piping (incorporated by reference, see § 851.27); (iv) B31.4—2002—Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids (incorporated by reference, see § 851.27); (v) B31.5—2001—Refrigeration Piping and Heat Transfer Components, and B31.5a—2004, Addenda to ASME B31.5—2001 (incorporated by reference, see § 851.27); (vi) B31.8—2003—Gas Transmission and Distribution Piping Systems (incorporated by reference, see § 851.27); (vii) B31.8S—2001—Managing System Integrity of Gas Pipelines (incorporated by reference, see § 851.27); (viii) B31.9—1996—Building Services Piping (incorporated by reference, see § 851.27); (ix) B31.11—2002—Slurry Transportation Piping Systems (incorporated by reference, see § 851.27); and (x) B31G—1991—Manual for Determining Remaining Strength of Corroded Pipelines (incorporated by reference, see § 851.27). (3) The strictest applicable state and local codes.	<b>SEC-Q-04</b>
(c) When national consensus codes are not applicable (because of pressure range, vessel geometry, use of special materials, etc.), contractors MUST implement measures to provide equivalent protection and ensure level of safety greater than or equal to the level of protection afforded by the ASME or applicable state or local code. Measures MUST include the following: (1) Design drawings, sketches, and calculations MUST be reviewed and approved by a qualified independent design professional (i.e., professional engineer). Documented organizational peer review is acceptable. (2) Qualified personnel MUST be used to perform examinations and inspections of materials, in-process fabrications, non-destructive tests, and acceptance test. (3) Documentation, traceability, and accountability MUST be maintained for each pressure vessel or system, including descriptions of design, pressure conditions, testing, inspection, operation, repair, and maintenance.	<b>SEC-Q-04</b>



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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<b>5. Firearms Safety</b>	
<p>(a) A contractor engaged in DOE activities involving the use of firearms MUST establish firearms safety policies and procedures for security operations, and training to ensure proper accident prevention controls are in place.</p> <p>(1) Written procedures MUST address firearms safety, engineering and administrative controls, as well as personal protective equipment requirements.</p> <p>(2) As a minimum, procedures MUST be established for:</p> <ul style="list-style-type: none"> <li>(i) Storage, handling, cleaning, inventory, and maintenance of firearms and associated ammunition;</li> <li>(ii) Activities such as loading, unloading, and exchanging firearms. These procedures MUST address use of bullet containment devices and those techniques to be used when no bullet containment device is available;</li> <li>(iii) Use and storage of pyrotechnics, explosives, and/or explosive projectiles;</li> <li>(iv) Handling misfires, duds, and unauthorized discharges;</li> <li>(v) Live fire training, qualification, and evaluation activities;</li> <li>(vi) Training and exercises using engagement simulation systems;</li> <li>(vii) Medical response at firearms training facilities; and</li> <li>(viii) Use of firing ranges by personnel other than DOE or DOE contractor protective forces personnel.</li> </ul>	N/A
<p>(b) Contractors MUST ensure that personnel responsible for the direction and operation of the firearms safety program are professionally qualified and have sufficient time and authority to implement the procedures under this section.</p>	
<p>(c) Contractors MUST ensure that firearms instructors and armorers have been certified by the Safeguards and Security National Training Center to conduct the level of activity provided. Personnel MUST not below to conduct activities for which they have not been certified.</p>	
<p>(d) Contractors MUST conduct formal appraisals assessing implementation of procedures, personnel responsibilities, and duty assignments to ensure overall policy objectives and performance criteria are being met by qualified personnel.</p>	
<p>(e) Contractors MUST implement procedures related to firearms training, live fire range safety, qualification, and evaluation activities, including procedures requiring that:</p> <ul style="list-style-type: none"> <li>(1) Personnel MUST successfully complete initial firearms safety training before being issued any firearms. Authorization to remaining armed status WILL continue only if the employee demonstrates the technical and practical knowledge of firearms safety semiannually;</li> <li>(2) Authorized armed personnel MUST demonstrate through documented limited scope performance tests both technical and practical knowledge of firearms handling and safety on a semi-annual basis;</li> <li>(3) All firearms training lesson plans MUST incorporate safety for all aspects of firearm straining task performance standards. The lesson plans MUST follow the standards set forth by the Safeguards and Security Central Training Academy’s standard training programs;</li> <li>(4) Firearms safety briefings MUST immediately precede training, qualifications, and evaluation activities involving live fire and/or engagement simulation systems;</li> <li>(5) A safety analysis approved by the Head of DOE WVDP Field Element MUST be developed forth facilities and operation of each live fire range prior to implementation of any new training, qualification, or evaluation activity. Results of these analyses MUST be incorporated into procedures, lesson plans, exercise plans, and limited scope performance tests;</li> <li>(6) Firing range safety procedures MUST be conspicuously posted at all range facilities; and</li> </ul>	N/A

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(7) Live fire ranges, approved by the Head of DOE WVDP Field Element, MUST be properly sited to protect personnel on the range, as well as personnel and property not associated with the range.	N/A
(f) Contractors MUST ensure that the transportation, handling, placarding, and storage of munitions conform to the applicable DOE requirements.	
<b>6. Industrial Hygiene</b>	
Contractors MUST implement comprehensive industrial hygiene program that includes at least the following elements:	
(a) Initial or baseline surveys and periodic resurveys and/or exposure monitoring as appropriate of all work areas or operations to identify and evaluate potential worker health risks;	<b>SEC-IH-01 SEC-IH-02</b>
(b) Coordination with planning and design personnel to anticipate and control health hazards that proposed facilities and operations would introduce;	<b>SEC-ISMS SEC-ISMS-002</b>
(c) Coordination with cognizant occupational medical, environmental, health physics, and work planning professionals;	<b>SEC-ISMS-002</b>
(d) Policies and procedures to mitigate the risk from identified and potential occupational carcinogens;	<b>SEC-ISMS-002 SEC-IH-11</b>
(e) Professionally and technically qualified industrial hygienists to manage and implement the industrial hygiene program; and	<b>SEC-IH-01 SEC-IH-02</b>
(f) Use of respiratory protection equipment tested under the DOE Respirator Acceptance Program for Supplied-air Suits (DOE Technical Standard-1167–2003) when National Institute for Occupational Safety and Health-approved respiratory protection does not exist for DOE tasks that require such equipment.	<b>SEC-IH-04</b>
For security operations conducted in accordance with Presidential Decision Directive 39, U.S. POLICY ON COUNTER TERRORISM, use of Department of Defense military type masks for respiratory protection by security personnel is acceptable.	N/A
<b>7. Biological Safety (Not applicable to SEC operations as personnel do not work with biological etiologic agents)</b>	
(a) Contractors MUST establish and implement a biological safety program that: <ul style="list-style-type: none"> <li>(1) Establishes an Institutional Biosafety Committee (IBC) or equivalent. The IBC MUST:                             <ul style="list-style-type: none"> <li>(i) Review any work with biological etiologic agents for compliance with applicable Centers for Disease Control and Prevention (CDC), National Institutes of Health (NIH), World Health Organization(WHO), and other international, Federal, State, and local guidelines and assess the containment level, facilities, procedures, practices, and training and expertise of personnel; and</li> <li>(ii) Review the site’s security, safeguards, and emergency management plans and procedures to ensure they adequately consider work involving biological etiologic agents.</li> </ul> </li> <li>(2) Maintains an inventory and status of biological etiologic agents, and provide to the responsible field and area office, through the laboratory IBC (or its equivalent), an annual status report describing the status and inventory of biological etiologic agents and the biological safety program.</li> </ul>	Not applicable to SEC’s current work scope. SEC does not handle etiologic agents.

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<p>(3) Provides for submission to the appropriate Head of DOE WVDP Field Element, for review and concurrence before transmittal to the Centers for Disease Control and Prevention (CDC), each Laboratory Registration/Select Agent Program registration application package requesting registration of a laboratory facility for the purpose of transferring, receiving, or handling biological select agents.</p> <p>(4) Provides for submission to the appropriate Head of DOE WVDP Field Element, copy of each CDC Form EA-101, Transfer of Select Agents, upon initial submission of the Form EA-101 to a vendor or other supplier requesting or ordering a biological select agent for transfer, receipt, and handling in the registered facility. Submit to the appropriate Head of DOE WVDP Field Element the completed copy of the Form EA-101, documenting final disposition and/or destruction of the select agent, within 10days of completion of the Form EA-101.</p> <p>(5) Confirms that the site safeguards and security plans and emergency management programs address biological etiologic agents, with particular emphasis on biological select agents.</p> <p>(6) Establishes an immunization policy for personnel working with biological etiologic agents based on the evaluation of risk and benefit of immunization.</p>	
<b>8. Occupational Medicine</b>	
<p>(a) Contractors MUST establish and provide comprehensive occupational medicine services to workers employed at a covered work place who:</p> <ul style="list-style-type: none"> <li>(1) Work on a DOE site for more than 30days in a 12-month period; or</li> <li>(2) Are enrolled for any length of time in a medical or exposure monitoring program required by this rule and/or any other applicable Federal, State or local regulation, or other obligation.</li> </ul>	<b>SEC-IH-03</b>
<p>(b) The occupational medicine services MUST be under the direction of a graduate of a school of medicine or osteopathy that is licensed for the practice of medicine in the state in which the site is located.</p>	
<p>(c) Occupational medical physicians, occupational health nurses, physician’s assistants, nurse practitioners, psychologists, employee assistance counselors, and other occupational health personnel providing occupational medicine services MUST be licensed, registered, or certified as required by Federal or State law where employed.</p>	
<p>(d) Contractors MUST provide the occupational medicine providers access to hazard information by promoting its communication, coordination, and sharing among operating and environment, safety, and health protection organizations.</p> <ul style="list-style-type: none"> <li>(1) Contractors MUST provide the occupational medicine providers with access to information on the following: <ul style="list-style-type: none"> <li>(i) Current information about actual or potential work-related site hazards (chemical, radiological, physical, biological, or ergonomic);</li> <li>(ii) Employee job-task and hazard analysis information, including essential job functions;</li> <li>(iii) Actual or potential work-site exposures of each employee; and</li> <li>(iv) Personnel actions resulting in a change of job functions, hazards or exposures.</li> </ul> </li> <li>(2) Contractors MUST notify the occupational medicine providers when an employee has been absent because of an injury or illness for more than 5 consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule);</li> <li>(3) Contractors MUST provide the occupational medicine provider information on, and the opportunity to participate in, worker safety and health team meetings and committees;</li> </ul>	

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
(4) Contractors MUST provide occupational medicine providers access to the workplace for evaluation of job conditions and issues relating to workers' health.	
(e) A designated occupational medicine provider MUST: (1) Plan and implement the occupation medicine services; and (2) Participate in worker protection teams to build and maintain necessary partnerships among workers, their representatives, managers, and safety and health protection specialists in establishing and maintaining a safe and healthful workplace.	
(f) A record, containing any medical, health history, exposure history, and demographic data collected for the occupational medicine purposes, MUST be developed and maintained for each employee for whom medical services are provided. All occupational medical records MUST be maintained in accordance with Executive Order 13335, Incentives for the Use of Health Information Technology. (1) Employee medical, psychological, and employee assistance program (EAP) records MUST be kept confidential, protected from unauthorized access, and stored under conditions that ensure their long-term preservation. Psychological records MUST be maintained separately from medical records and in the custody the designated psychologist in accordance with 10 CFR 712.38(b)(2). (2) Access to these records MUST be provided in accordance with DOE regulations implementing the Privacy Act and the Energy Employees Occupational Illness Compensation Program Act.	

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<p>(g) The occupational medicine services provider <b>MUST</b> determine the content of the worker health evaluations, which <b>MUST</b> be conducted under the direction of a licensed physician, in accordance with current sound and acceptable medical practices and all pertinent statutory and regulatory requirements, such as the Americans with Disabilities Act.</p> <p>(1) Workers <b>MUST</b> be informed of the purpose and nature of the medical evaluations and tests offered by the occupational medicine provider.</p> <p>(i) The purpose, nature and results of evaluations and tests <b>MUST</b> be clearly communicated verbally and in writing to each worker provided testing;</p> <p>(ii) The communication <b>MUST</b> be documented in the worker’s medical record; and</p> <p>(2) The following health evaluations <b>MUST</b> be conducted when determined necessary by the occupational medicine provider for the purpose of providing initial and continuing assessment of employee fitness for duty.</p> <p>(i) At the time of employment entrance or transfer to a job with new functions and hazards, a medical placement evaluation of the individual’s general health and physical and psychological capacity to perform work <b>WILL</b> establish a baseline record of physical condition and assure fitness for duty.</p> <p>(ii) Periodic, hazard-based medical monitoring or qualification-based fitness for duty evaluations required by regulations and standards, or as recommended by the occupational medicine services provider, <b>WILL</b> be provided on the frequency required.</p> <p>(iii) Diagnostic examinations <b>WILL</b> evaluate employee’s injuries and illnesses to determine work-relatedness, the applicability of medical restrictions, and referral for definitive care, as appropriate.</p> <p>(iv) After a work-related injury or illness or an absence due to any injury or illness lasting 5 or more consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule), a return to work evaluation <b>WILL</b> determine the individual’s physical and psychological capacity to perform work and return to duty.</p> <p>(v) At the time of separation from employment, individuals <b>SHALL</b> be offered a general health evaluation to establish a record of physical condition.</p>	
<p>(h) The occupational medicine provider <b>MUST</b> monitor ill and injured workers to facilitate their rehabilitation and safe return to work and to minimize lost time and its associated costs.</p> <p>(1) The occupational medicine provider <b>MUST</b> place an individual under medical restrictions when health evaluations indicate that the worker <b>SHOULD</b> not perform certain job tasks. The occupational medicine provider <b>MUST</b> notify the worker and contractor management when employee work restrictions are imposed or removed.</p> <p>(2) Occupational medicine provider physician and medical staff <b>MUST</b>, on a timely basis, communicate results of health evaluations to management and safety and health protection specialists to facilitate the mitigation of worksite hazards.</p>	
<p>(j) The occupational medicine provider <b>MUST</b> include measures to identify and manage the principal preventable causes of premature morbidity and mortality affecting worker health and productivity.</p> <p>(1) The contractor <b>MUST</b> include programs to prevent and manage these causes of morbidity when evaluations demonstrate their cost effectiveness.</p> <p>(2) Contractors <b>MUST</b> make available to the occupational medicine provider appropriate access to information from health, disability, and other insurance plans (de-identified as necessary) in order to facilitate this process.</p>	

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<b>Requirement</b>	<b>Implementing SEC Policy/Procedure</b>
<p>(k) The occupational medicine services provider MUST review and approve the medical and behavioral aspects of employee counseling and health promotional programs, including the following types:</p> <ul style="list-style-type: none"> <li>(1) Contractor-sponsored or contractor supported EAPs;</li> <li>(2) Contractor-sponsored or contractor supported alcohol and other substance abuse rehabilitation programs; and</li> <li>(3) Contractor-sponsored or contractor supported wellness programs.</li> <li>(4) The occupational medicine services provider MUST review the medical aspects of immunization programs, blood-borne pathogens programs, and bio-hazardous waste programs to evaluate their conformance to applicable guidelines.</li> <li>(5) The occupational medicine services provider MUST develop and periodically review medical emergency response procedures included in site emergency and disaster preparedness plans. The medical emergency responses MUST be integrated with nearby community emergency and disaster plans.</li> </ul>	
<b>9. Motor Vehicle Safety</b>	
<p>(a) Contractors MUST implement a motor vehicle safety program to protect the safety and health of all drivers and passengers in Government-owned or -leased motor vehicles and powered industrial equipment (i.e., fork trucks, tractors, platform lift trucks, and other similar specialized equipment powered by an electric motor or an internal combustion engine).</p>	<b>SEC-IS-12</b>
<p>(b) The contractor MUST tailor the motor vehicle safety program to the individual DOE site or facility, based on an analysis of the needs of that particular site or facility.</p>	
<p>(c) The motor vehicle safety program MUST address, as applicable to the contractor’s operations:</p> <ul style="list-style-type: none"> <li>(1) Minimum licensing requirements (including appropriate testing and medical qualification) for personnel operating motor vehicles and powered industrial equipment;</li> <li>(2) Requirements for the use of seat belts and provision of other safety devices;</li> <li>(3) Training for specialty vehicle operators;</li> <li>(4) Requirements for motor vehicle maintenance and inspection;</li> <li>(5) Uniform traffic and pedestrian control devices and road signs;</li> <li>(6) On-site speed limits and other traffic rules;</li> <li>(7) Awareness campaigns and incentive programs to encourage safe driving; and</li> <li>(8) Enforcement provisions.</li> </ul>	
<b>10. Electrical Safety</b>	
<p>Contractors MUST implement a comprehensive electrical safety program appropriate for the activities at their site. This program MUST meet the applicable electrical safety codes and standards referenced in § 851.23.</p>	<b>SEC-IS-02 SEC-IS-16</b>
<p><b>11. Nanotechnology Safety—Reserved</b> The Department has chosen to reserve this section since policy and procedures for nanotechnology safety are currently being developed. Once these policies and procedures have been approved, the rule WILL be amended to include them through a rulemaking consistent with the Administrative Procedure Act.</p>	
<p><b>12. Workplace Violence Prevention—Reserved</b> The Department has chosen to reserve this section since the policy and procedures for workplace violence prevention are currently being developed. Once these policies and procedures have been approved, the rule WILL be amended to include them through a rulemaking consistent with the Administrative Procedure Act.</p>	