

**INSPECTION TECHNICAL PROCEDURE**

**I-160**

**INDUSTRIAL HEALTH AND SAFETY PROGRAM INSPECTION**

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Revision 0

Approved: \_\_\_\_\_  
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# INSPECTION TECHNICAL PROCEDURE I-160, REV. 0

## INDUSTRIAL HEALTH AND SAFETY PROGRAM INSPECTION

### 1.0 PURPOSE

This procedure evaluates the Contractor's integrated standards-based, construction-oriented industrial health and safety (IH&S) program for the River Protection Project Waste Treatment Plant (RPP-WTP). The program is required by the Contract<sup>1</sup> and is described in PL-W375-ISO0001, *Non-Radiological Worker Safety and Health Plan for the River Protection Project-Waste Treatment Plant* (herein referred to as the Contractor's IH&S Plan).

This procedure implements the inspection program objectives of RL/REG-2000-04, *Industrial Hygiene and Safety Regulatory Plan*, Section 4.0, "Inspection Program," which requires inspection of the Contractor's IH&S program to confirm that the Contractor IH&S program reflects proven principles of safety management and work planning that promote accident prevention, employee involvement, and sound hazard analysis and control. This procedure provides the inspection attributes and guidance for inspecting the Contractor's IH&S program.

### 2.0 OBJECTIVES

This procedure (based on RL/REG-2000-04, Section 4.1, "Purpose of the Inspection Program") verifies that the Contractor has an effective IH&S program that meets the following requirements:

1. Ensures conformance with RL/REG-2000-04, Appendix A, through the establishment of Contractor-defined policies and procedures for protecting employees from construction-related workplace hazards.
2. Ensures timely identification and implementation of corrective actions.

The Contractor has committed to the following IH&S program in the Contract,<sup>2</sup> which states the following:

"The Contractor's non-radiological worker safety and health program shall conform to the DOE regulatory program described in RL/REG-2000-04, *Industrial Health and Safety Regulatory Plan*."

The Contract<sup>3</sup> also requires the following:

"The Contractor shall develop and implement an integrated standards based safety management program. The Contractor's safety management program shall reflect proven

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<sup>1</sup> Contract No. DE-AC27-01RV14136 between DOE and Bechtel National, Inc., dated December 11, 2000.

<sup>2</sup> Contract No. DE-AC27-01RV14136, Section C6, Standard 7(e)(1)(i).

<sup>3</sup> Contract No. DE-AC27-01RV14136, Section C6, Standard 7(e)(1)(ii).

principles of safety management and work planning that promotes accident prevention, employee involvement, and sound hazard analysis and control."

The Contract<sup>4</sup> further stipulates the following:

"DOE is responsible for setting and approving non-radiological worker safety and health standards, formal interpretation of standards, conduct of non-radiological worker safety and health inspections, and granting variances."

### **3.0 INSPECTION REQUIREMENTS**

The Contract stipulates that the Contractor will comply with the requirements stated in RL/REG-2000-04, Appendix A. The "Matrix of IH&S Requirements to Procedure Appendixes" (Attachment 1 to this procedure), references the source of the requirements and indicates which appendix of this procedure covers the topic. Some requirements listed in RL/REG-2000-04, Appendix A, are outside the scope of this procedure as shown in Attachment 1, for example DOE Order 225.1A, "Accident Investigations."

#### **3.1 Conformance with Programmatic Requirements**

The inspector should verify that the Contractor has established adequate IH&S programs required by RG/REG-2000-04, Appendix A.

#### **3.2 Deficiency Identification and Corrective Action Implementation**

The inspector should verify that the Contractor has established a corrective action management program that identifies IH&S deficiencies and tracks and implements corrective actions to address these deficiencies. (RL/REG-2000-04, Section 4.1, and Appendix A, Section 9(c), 10(b), 14a(3), and 20c).

### **4.0 INSPECTION GUIDANCE**

Appendix M is a comprehensive program that contains the elements necessary to evaluate the Contractor's use of proven principles of safety management, work planning, employee involvement, and sound hazard analysis and control and is, therefore, a mandatory element of the IH&S inspection program. To accomplish the inspection requirements, the inspector will select for assessment the worker protection program (Appendix M) and at least three additional programs, selected from those listed in the appendixes summarized in Attachment 1. The remaining programs selected should be based on a graded approach that considers work in progress, incidents that have occurred, and the results of Contractor-based oversight efforts.

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<sup>4</sup> Contract No. DE-AC27-01RV14136, Section C6, Standard 7(e)(1)(iv).

## **4.1 Conformance with Programmatic Requirements**

To determine that the Contractor has implemented IH&S programs necessary for the on-going construction activities, the inspector should perform the following:

- 4.1.1 The inspector should review the Contractor's IH&S procedures required to implement the Contractor's IH&S Plan and verify that the procedures adequately accomplish the IH&S program attributes listed in Appendix M of this procedure.
- 4.1.2 The inspector should select at least three additional programs from the appendices of this procedure for examination. The selection should be accomplished using the graded approach suggested in paragraph 4.0, above, and verify that the program attributes of the selected appendices have been accomplished as specified.

## **4.2 Deficiency Identification and Corrective Action Implementation**

To assess the adequacy of the Contractor's IH&S corrective action program, the inspector should perform the following:

- 4.2.1 Verify that the Contractor's program and plan for documenting IH&S deficiencies includes provisions for tracking the deficiencies and tracking and accomplishing corrective actions to address the deficiencies. The program and plan should accomplish the requirements of RL/REG-2000-04, Appendix A, Sections 9c, 10b, 14a, and 20c.

The inspector should review assessments, audits, and oversight activities that document the Contractor's identification of IH&S deficiencies and implementation of corrective actions. Based on these reviews, combined with interviews with management, supervisors, and safety and health representatives (S&HR), the inspector should verify that the Contractor is implementing the following statements in the Contractor's IH&S Plan (PL-W375-ISO0001):

1. Section 1.2, "The Project team will regularly audit the program and that of each of its subcontractors for adherence to this plan."
2. Section 1.4, "Continued and regular inspections by supervisors and safety personnel as well as the culture of ownership and total involvement in the safety program will produce an atmosphere of voluntary compliance."
3. Section 2.3.2, "The (Safety and Health Representatives) S&HRs (such as safety engineers and industrial hygienists) will ensure that the elements of the Safety and Health Plan are being followed on a day-to-day basis. Their responsibilities will be to: Document and maintain a record of audits, evaluations, and assessments."
4. Section 2.5, "The following will be among the subcontractors' responsibilities: Conduct and document regular inspections of their work areas, identify hazards or areas of ES&H non-compliance, and take the appropriate corrective action."

5. Section 4.5, Self-Assessment Program (SAP), "A self assessment program, based upon the principle of continuous improvement, will be established at the project site. Deficiencies found during the self-assessment process will be tracked until they are closed or resolved by an open item tracking system. Management and workers will participate in the self-assessment process."
  6. Section 6.1, ES&H Department Overview and Surveillance, "The ES&H Department shall routinely conduct impromptu surveillance on a daily basis of all Project and subcontractor's activities to ensure that safety, and health is properly implemented.... ES&H personnel will use deficiency reports (DRs) where trends or significant violation occur and will send a formal copy of the report and recommended corrective action to the responsible management."
- 4.2.2 Review the corrective action management and tracking program and the associated implementing procedures used for IH&S deficiencies to determine whether these deficiencies are required to be logged and tracked to close out, including verification of corrective action completion and effectiveness.
- 4.2.3 Evaluate the effectiveness of the Contractor's program to track and close recommendations for corrective actions from the assessment and audits listed in 4.2.1, above. At a minimum, the inspector should review a sample of IH&S deficiency reports and conduct selected interviews associated with the closure of the deficiency reports.

## 5.0 REFERENCES

29 CFR 1904, "Recording and Reporting Occupational Injuries and Illnesses," *Code of Federal Regulations*, as amended.

29 CFR 1910, "Occupational Safety and Health Standards for General Industry," *Code of Federal Regulations*, as amended.

29 CFR 1926, "Safety and Health Regulations for Construction," *Code of Federal Regulations*, as amended.

DOE Order 225.1, "Accident Investigations," U.S. Department of Energy, 1997.

DOE Order 232.1A, *Occurrence Reporting and Processing of Operations Information*, U.S. Department of Energy, 1997.

DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, U.S. Department of Energy, March 2000.

DOE-RL-SOD-INST-L&T.001, *Hanford Site Lockout/Tagout Program*, U.S. Department of Energy, Richland Operations Office, 2000.

NFPA 70E, "Electrical Safety Requirements for Employee Workplaces," National Fire Protection Association, 1995.

PL-W375-ISO0001, "Non-Radiological Worker Safety and Health Plan for the River Protection Project - Waste Treatment Plant," Rev. 1, Bechtel National, Inc., Richland, Washington, 2001.

RL/REG-98-26, *Inspection Technical Procedures*, U.S. Department of Energy, Office of River Protection, 2001.

I-103, "Self-Assessment and Corrective Action Assessment"

I-162, "Industrial Health and Safety Inspections"

RL/REG-2000-04, *Industrial Health and Safety Oversight Plan*, Rev. 2, U.S. Department of Energy, Office of River Protection, 2001.

RL/REG-2000-21, *Regulatory Unit Assessment of the Non-Radiological Worker Safety and Health Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, 2000.

## 6.0 LIST OF TERMS

CAM	corrective action management
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DR	deficiency report
ES&H	environmental safety and health
IH&S	industrial health and safety
OSHA	Occupational Safety and Health Administration
RPP-WTP	River Protection Project Waste Treatment Plant
S&HRs	safety and health representatives
SAP	Self-Assessment Program
WPP	worker protection program

### Attachments:

1. Matrix of IH&S Requirements to Procedure Appendixes
2. Appendixes A-Q

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**Attachment 1. Matrix of IH&S Requirements to Procedure Appendixes.**

<b>RL/REG-2000-04 Appendix A Requirements or other Contract Requirements</b>	<b>Inspection Technical Procedure (ITP) I-160 Appendixes, Other ITP Inspection Requirements, or DOE Orders</b>
Order-Based Worker Protection Program (Appendix A, Items 1-11 and Item 14)	Worker Protection Program, Appendix M
CFR-Based Worker Protection (Appendix A, Item 12)	Equipment and Tool Inspection Program, Appendix B Fall Protection Training Program, Appendix C Fire Protection and Prevention Program, Appendix D Hazard Communication Program, Appendix E Hearing Conservation Program, Appendix F Lockout/Tagout Program, Appendix G Respiratory Protection Program, Appendix K Safety Training Program, Appendix L Electrical Safety, Appendix O Emergency Action Plan, Appendix Q
Subcontractor Requirements (Appendix A, Item 13)	Program Compliance for Subcontractors, Appendix N
Industrial Hygiene (Appendix A, Item 15)	Industrial Hygiene, Appendix J
Occupational Medicine (Appendix A, Item 16)	Occupational Medicine Program, Appendix I Blood-Borne Pathogens, Appendix A
Motor Vehicle Safety (Appendix A, Item 18)	Motor Vehicle Safety, Appendix H
Suspect and Counterfeit Items Controls (Appendix A, Item 19)	ITP I-103, Self-Assessment and Corrective Action Assessment
Accident Investigations (Appendix A, Item 20)	DOE Order 225.1A, <i>Accident Investigation*</i> (No appendix)
<b>Order-based Reporting Programs Occurrence and ES&amp;H Reporting (Contract Section J, Attachment E(b))</b>	Programmatic Reporting, Appendix P

\* OSR inspection procedure ITP I-161 covers the investigation of off-normal IH&S reportable incidents. Type A and Type B incidents are outside the scope of OSR activities.

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**Attachment 2. Appendixes A-Q.**

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## **Appendix A. Blood-Borne Pathogens.**

NOTE: The program requirements in 29 CFR 1910.1030, "Occupational Safety and Health Standards for General Industry," require employers to educate and train their employees on the risk that pathogens, carried by body fluid, can be transmitted from an infected person to others on a construction site. Those reasonably expected to be at risk are the principal health care providers (i.e., doctors, nurses, emergency medical personnel, and those trained to provide site first aid). The program must address the principal mechanism for contamination and/or transmission of pathogens, and the actions both the Contractor and affected employees must take to provide adequate protection as described in the attributes below. Specific requirements should be detailed in the inspection plan.

### **A. Program Attributes**

At a minimum, the program shall include the following attributes:

1. A written exposure control plan. (29 CFR 1910.1030(c)).
2. Necessary engineering and work practice controls (e.g., elimination of sharp objects) that the Contractor provides, and employee knowledge of when and how to operate these controls. (29 CFR 1910.1030(d)(2), all subparts)
3. Provisions for applicable personal protective equipment, including what types to use, when they should be used, and how to use them. (29 CFR 1910.1030(d)(3), all subparts)
4. Provisions to ensure that the work site is clean and sanitary. (29 CFR 1910.1030(d)(4), all subparts)
5. Training and education on the types of blood-borne pathogens; the transmission routes of the pathogens; precautions that employees must take to adequately protect themselves from infection; and methods of decontamination, waste disposal, and handling. (29 CFR 1910.1030(g)(2), all subparts)

### **B. Guidance for Program Assessment**

Inspector should review the written exposure control plan as follows:

1. Verify the plan contains, at a minimum, engineering controls, personal protective equipment to prevent worker exposure, and employee training about the blood-borne pathogen hazards. (29 CFR 1910.1030(c))
2. Verify the plan has provisions for work practice controls that minimize risk to workers from stick, puncture, cuts, or exposure to contaminated waste.

3. Evaluate the compatibility of the provisions for personal protective equipment with the exposure control plan.
4. Evaluate the program provisions for maintaining a sanitary environment at the first aid station(s). The program should require trash receptacles to be located in the first aid station(s); allow eating, drinking, smoking, etc., in approved areas only; require appropriately labeled containers according to 1910.1030(g)(1); and provide for disposal of blood-impregnated paper, towels, handkerchiefs, etc., only in appropriately labeled containers.
5. The inspector should do the following:
  - Review the training curriculum and verify that the training attributes are in accordance with 1910.1030(g)(2).
  - Interview the employees' supervisor(s) to determine which employees should be trained to the blood-borne pathogen standards.
  - Review the training records and verify the documentation that affected employees have completed the training.
  - Interview the training supervisor to verify that instructors are deemed qualified.

## **Appendix B. Equipment and Tool Inspection Program.**

NOTE: The written program shall cover the requirements for an inspection of tools and equipment by a competent person as described in 29 CFR 1926.20(b).

### **A. Program Attributes**

At a minimum, the written program shall include the following attributes:

1. Criteria for determining when a tool or piece of equipment is unsafe based on the OSHA standard that covers that piece of equipment or tool. (29 CFR 1926, Subparts I and O)
2. Frequent and regular inspections of the job site, materials, and equipment are made by a competent person. (29 CFR 1926.20(b)(2))
3. Procedures for removing tools or equipment from service involving either lock and tag or physical removal from the workplace. (29 CFR 1926.20(b)(3))
4. Provisions for permitting only employees qualified by training or experience to operate equipment and machinery. (29 CFR 1926.20(b)(4))

### **B. Guidance for Program Assessment**

The inspector should review the following:

1. The Contractor's written plan to verify that it contains the conditions by which tools or equipment is determined to be unsafe and tagged for removal from service (e.g., the requirements in 29 CFR 1926, Subpart I, "Hand and Power Tools," or the requirements of 29 CFR 1926, Subpart O, "Motor Vehicles, Mechanized Equipment, and Marine Operations").
2. The Contractor's program/procedure to verify that a competent person is required to inspect machinery and equipment per 29 CFR 1926, Subpart I and O.
3. The Contractor's written plan to verify that it contains or references criteria for tool/equipment repair or removal from service based on 29 CFR 1926, Subpart I and O.
4. The Contractor's written plan to verify that it requires personnel be qualified to work with equipment and machinery.

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## **Appendix C. Fall Protection Training Program.**

NOTE: Written programs and plans for fall protection are not required in 29 CFR 1926, "Safety and Health Regulations for Construction," Subpart M; however, documented certification of training is required. Fall protection field activities are inspected using Inspection Technical Procedure (ITP) A-162, "Industrial Health and Safety Inspections."

### **A. Program Attributes**

The fall protection training program shall meet conventional fall protection requirements as specified in 29 CFR 1926.503. At a minimum, the training program shall include the following elements:

1. Provisions for training each employee who is potentially exposed to fall hazards, in the recognition and minimization of potential fall hazards. (29 CFR 1926.503(a) all subsections)
2. Provisions for training to be provided by a competent person. (29 CFR 1926.503(a)(2))
3. Provisions for training for all affected employees. (29 CFR 1926.503(b) all subsections)
4. Provisions for retraining employees when the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by the program. (29 CFR 1926.503(c) all subsections)

### **B. Guidance for Program Assessment**

The inspector should verify fall protection training contains the following information, at a minimum:

1. The Contractor has a fall protection training program which enables each employee to recognize and minimize their exposure to fall hazards.
2. A competent person is qualified in the following areas:
  - a. The nature of fall hazards in the work site.
  - b. The correct procedure for erecting, maintaining, disassembling, and inspection of fall protection systems to be used.
  - c. The description of the use and operation of fall arrest systems, safety nets, guardrail systems, warning line systems, safety monitoring systems, controlled access zones, or other protection to be used.

- d. Limitations on the use of mechanical equipment during roofing work on low-sloped roofs.
  - e. Correct procedures for handling and storing equipment and materials and erecting overhead protection.
  - f. The role of employees in the fall protection plans.
3. No further guidance needed.
4. No further guidance needed.

## **Appendix D. Fire Protection and Prevention Program.**

NOTE: A program that describes and implements effective fire protection and prevention at the job site throughout all phases of the construction, repair, alteration, or demolition work is required by 29 CFR 1926.24<sup>5</sup> to implement the specific requirements of 29 CFR 1926, Subpart F. (29 CFR 1926.150 and 1926.151)

### **A. Program Attributes**

At a minimum, the fire protection and prevention program for all phases of construction work shall include provisions for the following:

1. Sufficient and well-maintained fire fighting equipment. (29 CFR 1926.150(a))
2. A water supply to operate fire-fighting equipment. (29 CFR 1926.150(b))
3. Portable fire-fighting equipment. (29 CFR 1926.150(c))
4. Identification and mitigation of ignition hazards. (29 CFR 1926.151(a))
5. Prohibitions on constructing temporary buildings such that they would pose a fire hazard or inhibit emergency evacuation. (29 CFR 1926.151(b))
6. Open yard storage of combustible materials so as not to pose a fire hazard. (29 CFR 1926.151(c))
7. Indoor storage of combustible materials so as not to pose a fire hazard. (29 CFR 1926.151(d))

### **B. Guidance for Program Assessment**

The inspector should review the program or construction procedures to determine if they address the attributes in Section A above. A written and approved program with these attributes is sufficient, if it conforms to the guidance below. The inspector should verify any elements not contained in the written program by interviews or field verification:

1. Verify the Contractor has developed a fire protection and prevention program which includes, as a minimum, the following elements:

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<sup>5</sup> 29 CFR 1926.24 requires "The employer shall be responsible for the development and maintenance of an effective fire protection and prevention program at the job site throughout all phases of the construction, repair, alteration, or demolition work..." The specific requirements for fire protection in construction are in 29 CFR 1926, Subpart F.

- a. No delay in providing necessary equipment. Access to controls and firefighting equipment at all times.
  - b. Equipment conspicuously located.
  - c. Equipment maintained and inspected periodically.
  - d. Fire Brigade adequately trained and equipped to protect life.
2. Verify that a temporary or permanent water supply is described in the program and is sufficient to operate the fire-fighting equipment properly with available rationale to document sufficient volume, duration, and pressure. (29 CFR 1926.150(b))
  3. Verify the program description of the portable fire extinguishers includes the rating, the number with respect to the building area, and the travel distance to each portable fire extinguisher. They should be in accordance with 29 CFR 1926.150(c) and Table F1, "Fire Extinguishers Data."
  4. Verify by review of the plan or interview with the responsible manager/supervisor, how ignition hazards are minimized or that the Contractor has mitigated hazards.
  5. Verify that the program requires construction of temporary buildings in compliance with 10 CFR 1926.151(b).
  6. Verify that the Contractor's program is in compliance with the requirements of 10 CFR 1926.151(c) for open yard storage of combustible materials.
  7. Verify that the Contractor's program is in compliance with the requirements of 10 CFR 1926.151(d) for indoor storage of combustible materials.

## **Appendix E. Hazard Communication Program.**

NOTE: Employers are required to provide all employees with information about the hazards and identities of chemicals to which they are exposed. The construction standard, 29 CFR 1926.59, references all requirements of the general industry standard, 29 CFR 1910.1200. The Contractor shall inform employees of available protective measures and how to prevent adverse effects from exposure to chemicals. Specific requirements should be detailed in the inspection plan.

### **A. Program Attributes**

At each workplace, verify that the employer develops, implements, and maintains a written hazard communication program (29 CFR 1910.1200(e)) that contains, at a minimum, the following attributes:

1. A system to ensure that chemicals are properly and legibly labeled and that a Material Safety Data Sheet (MSDS) accompanies each chemical shipment. (29 CFR 1910.1200(f))
2. A system to keep the MSDS inventory current for all chemicals. (29 CFR 1910.1200(g)(2))
3. Reasonable access to MSDSs for the employees at the worksite. (29 CFR 1910.1200(g)(8))
4. Effective information and training for employees on hazardous chemicals in their work area at the time of their initial assignment and whenever a new physical or health hazard is introduced into their work area. (29 CFR 1910.1200(h))

### **B. Guidance for Program Assessment**

The inspector should perform the following:

1. Review the written hazard communication program and evaluate the degree to which it contains procedures for ensuring that manufacturers' labels and MSDSs accompany all incoming chemicals.
2. Verify that the Contractor identifies a system to keep the MSDS inventory current for all chemicals.
3. Verify that the program requires that employees have reasonable access to MSDSs at their work site.
4. Verify that the program requires training and procedures that provide employees with effective information and training on hazardous chemicals in their work area at the time

of their initial assignment and whenever a new physical or health hazard is introduced into their work area.

## **Appendix F. Hearing Conservation Program.**

NOTE: Even though the noise exposure requirements for construction are defined in 29 CFR 1926.52, the inspection is being performed to the requirements of 29 CFR 1910.95 because the Contractor has committed to this requirement through the *Nonradiological Worker Safety and Health Plan*, PL-W375-IS00001, Rev. 1. The Contractor is not required to provide a written program.

### **A. Program Attributes**

Although the hearing conservation program does not have to be written, it must be communicated to all employees and subcontractors. At a minimum, the program must include the following elements of 29 CFR 1910.95:

1. Employees shall be protected against the effects of noise exposure when the sound levels exceed those in 29 CFR 1910.95(c), Appendix A, "Noise Exposure Computation," using Table G-16a. (29 CFR 1910.95(a))
2. When employees are subjected to sound levels exceeding those listed in Table G-16a, feasible administrative or engineering controls shall be used to control the noise. (29 CFR 1910.95(b))
3. If controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used. (29 CFR 1910.95(b))
4. The employer shall develop and implement a monitoring program and notify employees of results if exposures exceed the action level (50% of the permissible exposure). (29 CFR 1910.95(d))
5. The employer shall establish and maintain an audiometric testing program. (29 CFR 1910.95(g))

### **B. Guidance for Program Assessment**

The inspector should perform the following:

1. Ascertain that the Contractor evaluates the work environment to ensure that employees are protected against the effects of noise exposure when the sound levels exceed those in 29 CFR 1910.95(c), Appendix A, "Noise Exposure Computation," using Table G-16a. (29 CFR 1910.95(a))
2. Evaluate the program consisting of administrative or engineering controls to control the noise when employees are subjected to sound levels exceeding those listed in Table G-16a. (29 CFR 1910.95(b))

3. Assess the program for providing personal protective equipment. (29 CFR 1910.95(b))
4. Evaluate the noise-monitoring program for adequacy and provisions to notify employees of results if exposures exceed the action level (50% of the permissible exposure limit). (29 CFR 1910.95(d))
5. Evaluate the program for ensuring that employees who are potentially exposed to excessive sound levels have baseline audiograms. Evaluate requirements for periodic testing of employees who are exposed to sound levels exceeding those listed in Table G-16a. (29 CFR 1910.95 (g))



## **Appendix G. Lockout/Tagout Program.**

In the Contractor's IH&S Plan, the Contractor committed to follow DOE-RL-SOD-INST-L&T.001, *Hanford Site Lockout/Tagout Program* (the Hanford Program), in its entirety through the Contractor's procedure.

### **A. Program Attributes**

NOTE: The Contractor's program, as required in 29 CFR 1926.417 (no written program required by CFR), is the Hanford program, which addresses all aspects and requirements for protecting employees from the dangers of unexpected releases of hazardous energy or materials. The program is very specific in that it requires formal training, drawing walk-downs and checks, designation of a person in charge, methods of isolation, etc. By following the program, the Contractor will meet or exceed the protective measures required in 29 CFR 1926.417.

### **B. Guidance for Program Assessment**

The inspector should perform the following:

1. Read and understand the Hanford program.
2. Verify that employees are required to be trained to the program or, if not specified in the Contractor's IH&S program, that training on lockout/tagout has been provided and/or is a part of an applicable required employee training.
3. Verify that the Hanford Lockout/Tagout program (DOE-RL-SOD-INST-L&T.001) is transmitted in its entirety to all subcontractors for compliance.

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## **Appendix H. Motor Vehicle Safety.**

NOTE: The Contractor's IH&S program must cover the implementation of an effective motor vehicle safety program as described in RL/REG-2000-04, Appendix A, Section 18, for all phases of construction. This inspection applies to Contractor-owned and/or operated vehicles.

### **A. Program Attributes**

At a minimum, the program must include the following attributes:

1. Minimum licensing requirements (including appropriate testing, valid state licenses, and medical qualification) for personnel operating motor vehicles. (RL/REG-2000-04, Appendix A, Section 18a)
2. Requirements for using seat belts and provisions of other safety devices. (RL/REG-2000-04, Appendix A, Section 18b)
3. Training for specialty vehicle operators. (RL/REG-2000-04, Appendix A, Section 18c)
4. Requirements for motor vehicle maintenance and inspection. (RL/REG-2000-04, Appendix A, Section 18d)
5. Use of uniform traffic and pedestrian control devices and road signs. (RL/REG-2000-04, Appendix A, Section 18e)
6. Onsite speed limits and other traffic rules to promote smooth traffic flow and to minimize the potential for vehicle accidents. (RL/REG-2000-04, Appendix A, Section 18f)
7. Awareness campaigns and incentive programs to encourage safe driving. (Appendix A, Section 18g)
8. Enforcement provisions. (RL/REG-2000-04, Appendix A, Section 18h)

### **B. Guidance for Program Assessment**

NOTE: Specific requirements should be detailed in the inspection plan.

The inspector may review either a written plan/program that the Contractor has developed and approved to cover the attributes in A, above, or choose a sampling of important attributes. The inspector should review for adequacy the following:

1. The minimum licensing requirements for personnel operating government-owned contractor-operated motor vehicles.

2. The requirement that all personnel traveling in any Contractor vehicle must wear a seat belt.
3. Training programs for operators of specialty vehicles must be reflected in the vehicle operator training program (e.g. 29 CFR 1926.602(d) for powered industrial trucks).
4. Motor vehicle maintenance and inspection requirements.
5. The site analysis or plan for tailoring to the work site of uniform traffic and pedestrian control devices and road signs.
6. The site analysis or plan for traffic control relative to onsite speed limits and other traffic rules on existing and newly constructed permanent or temporary roads.
7. The plan/program for the awareness campaigns and incentive programs to encourage safe driving.
8. The program/plan for traffic control relative to the enforcement of motor vehicle safety rules.

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## Appendix I. Occupational Medicine Program.

RL/REG-2000-04<sup>6</sup> requires the Contractor to have a comprehensive occupational medicine program to address injuries and illnesses, employee wellness, fitness for duty, and other relevant medical issues on the construction site. Appendix A, "Blood-Borne Pathogens," and Appendix J, "Industrial Hygiene," in this procedure supplement the review of this program.

The written plan must describe and implement an effective occupational medicine program at the job site throughout all phases of the construction, repair, alteration, or demolition to implement the occupational medicine and health protection requirements of RL/REG-2000-04, Appendix A and the applicable standards in 29 CFR 1926, Subpart D.

### A. Program Attributes

At a minimum, the plan shall include the following attributes:

1. Interfaces among IH&S personnel (e.g., risk and exposure information exchange) will be provided for. (RL/REG-2000-04, Appendix A, Section 16a)
2. Occupational medical physician and selected medical staff will coordinate efforts to maintain a healthful work environment. (RL/REG-2000-04, Appendix A, Section 16b)
3. Contractor management will support the physician responsible for delivering medical services. (RL/REG-2000-04, Appendix A, Section 16c )
4. Health examinations will be provided to all workers. (RL/REG-2000-04, Appendix A, Section 16d)
5. Employee health care shall be monitored. (RL/REG-2000-04, Appendix A, Section 16e)
6. Counseling and health promotion shall be made available to the employees. (RL/REG-2000-04, Appendix A, Section 16f)
7. Medical records shall be maintained. (RL/REG-2000-04, Appendix A, Section 16g)
8. Emergency and disaster preparedness shall be planned. (RL/REG-2000-04, Appendix A, Section 16h)
9. Health care providers shall be trained/certified to perform their medical services. (RL/REG-2000-04, Appendix A, Section 16i)

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<sup>6</sup> RL/REG-2000-04, Appendix A, Section 16a (2), requires "A formal, written Contractor occupational medical program detailing the methods and procedures used to implement the occupational medical requirements necessary for worker protection and the promotion of a healthful work environment shall be established, maintained, reviewed, and updated."

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**B. Guidance for Program Assessment**

1. The program for interfaces among IH&S personnel should contain the following:
  - a. The methods and procedures used to implement the occupational medical requirements necessary to protect the worker and to promote a healthful work environment, and protocols used to maintain, review, and update the program. (RL/REG-2000-04, Appendix A, Section 16a(2))
  - b. The plans for a worker protection team to include requirements for medical staff to be part of the team. (RL/REG-2000-04, Appendix A, Section 16a(4))
2. The provisions that document that the physician, responsible for delivering medical services, is also responsible for planning and implementing the occupational medical program. (RL/REG-2000-04, Appendix A, Section 16b)
3. The provisions that ensure Contractor management will support the physician's responsible for delivering medical services by providing the following:
  - a. Job task and hazard analysis information. (RL/REG-2000-04, Appendix A, Section 16c(2)(a))
  - b. Summaries of potential employee worksite exposures before mandatory health examinations. (RL/REG-2000-04, Appendix A, Section 16c(2)(b))
4. The provisions to provide health examinations to all workers which include the following:
  - a. Health examinations are conducted by an occupational health examiner under the direction of a licensed physician. (RL/REG-2000-04, Appendix A, Section 16d(1))
  - b. The content of the health examinations is the responsibility of the physician providing the medical services. (RL/REG-2000-04, Appendix A, Section 16d(2))
  - c. Various classes of examinations are provided for and are being delivered. (RL/REG-2000-04, Appendix A, Section 16d(3))
  - d. The physician responsible for medical services is required to inform the Contractor management of appropriate employee work restrictions. (RL/REG-2000-04, Appendix A, Section 16d(4)).
5. The provisions that provide for monitoring employee health care which include the following:
  - a. Care of ill and injured employees is monitored to maximize their recovery and safe return to work and to minimize lost time. (RL/REG-2000-04, Appendix A, Section 16e(1))

- b. Management will notify the physician when an employee has been absent (for more than 5 consecutive days) because of a job-related injury or illness. (RL/REG-2000-04, Appendix A, Section 16e(2))
6. The provisions for counseling and health promotion are made available to employees, including the following:
- a. A physician reviews any Contractor sponsored or supported employee assistance, alcohol, and other substance abuse rehabilitation program. (RL/REG-2000-04, Appendix A, Section 16f(1) and (2))
  - b. Blood-borne pathogen and biohazardous waste programs conform to OSHA regulations. (RL/REG-2000-04, Appendix A, Section 16a(3))
- Note: The guidance for inspecting a blood-borne program is located in Appendix A to this procedure.
7. The provisions for maintaining employee medical records as follows:
- a. Developed and maintained. (RL/REG-2000-04, Appendix A, Section 16g(1))
  - b. Ensured of confidentiality. (RL/REG-2000-04, Appendix A, Section 16g(2))
  - c. Adequately protected and stored. (RL/REG-2000-04, Appendix A, Section 16g(3))
8. The provisions for emergency and disaster preparedness which include the following:
- a. A physician is responsible for the medical portion of the site emergency and disaster plan. (RL/REG-2000-04, Appendix A, Section 16h(1))
  - b. The medical portion of the emergency and disaster preparedness plan is integrated with the overall site plan and with the surrounding community emergency and disaster plan. (RL/REG-2000-04, Appendix A, Section 16h(2))
9. The provisions for training/certification of health care providers which include the following:
- a. Physicians are graduates of a school of medicine or osteopathy and meet the licensing requirements applicable to the location in which the physician works. (RL/REG-2000-04, Appendix A, Section 16i(1))
  - b. All other occupational health personnel are graduates of accredited schools and are licensed, registered, or certified as required where employed. (RL/REG-2000-04, Appendix A, Section 16i(2))

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## Appendix J. Industrial Hygiene.

NOTE: The sources of the industrial hygiene program for construction are RL/REG-2000-04, Appendix A, Section 15; and 29 CFR 1926.55 (gases, vapors, fumes, dusts, and mists), 1926.56 (illumination), and 1926.57 (ventilation).

### A. Program Attributes

Neither RL/REG-2000-04, Appendix A, nor 29 CFR 1926.55-57 requires the Contractor to have a written program to cover industrial hygiene. However, regardless if the Contractor has a written program, the Contractor is required to implement a program that contains the following attributes, at a minimum:

1. Provisions for conducting baseline surveys of all work areas or operations to identify and evaluate potential worker health risks. (RL/REG-2000-04, Appendix A, Section 15a)
2. Provisions for Contractor industrial hygiene personnel to coordinate with planning and design personnel to anticipate and control health hazards introduced by the proposed facilities and operations. (RL/REG-2000-04, Appendix A, Section 15b)
3. Provisions for conducting periodic surveys and/or exposure monitoring as appropriate. (RL/REG-2000-04, Appendix A, Section 15c)
4. Provisions for conducting and documenting exposure assessments for chemical, physical, biological, and ergonomic stressors using recognized exposure assessment methodologies and accredited hygiene laboratories. (RL/REG-2000-04, Appendix A, Section 15d and 29 CFR 1926.55, 1926.56, and 1926.57)
5. Specification of appropriate engineering, administrative, work practice, and/or personal protective control methods to limit hazardous exposures to acceptable levels. (RL/REG-2000-04, Appendix A, Section 15e)
6. Provisions for worker education, training, and involvement. (RL/REG-2000-04, Appendix A, Section 15f)
7. Coordination with cognizant occupational medicine, environmental, health physics, and work planning professionals. (RL/REG-2000-04, Appendix A, Section 15g)
8. Provisions for using respiratory protection equipment tested under the U.S. Department of Energy's (DOE) Respirator Acceptance Program, when respiratory protection approved by the National Institute for Occupational Safety and Health does not exist for DOE tasks. (RL/REG-2000-04, Appendix A, Section 15h)
9. Policy and procedures to mitigate the risk from identified and potential occupational carcinogens. (RL/REG-2000-04, Appendix A, Section 15i)

10. Provisions for using appropriate industrial hygiene standards. (RL/REG-2000-04, Appendix A, Sections 15j and 12d)
11. Provisions for professionally and technically qualified industrial hygienists to manage and implement the industrial hygiene program. (RL/REG-2000-04, Appendix A, Section 15k)

## **B. Guidance for Program Assessment**

If the Contractor has written and approved an industrial hygiene program, the inspector should review the attributes above to see that they are adequately incorporated into that program.

If the Contractor has no written program, the inspector should review the program in the field. They should use a graded approach; chose a sampling of important attributes from the above list; and, using the guidance below, perform a field review of implementation. The inspector should do the following.

- Review the Contractor's submittal PL-W375-ISO0001, "Non-Radiological Worker Safety and Health Plan for the River Protection Projects – Waste Treatment Plant," Section 8.0, "Industrial Hygiene."
- The inspector should prepare an inspection plan for those attributes not covered by plans and procedure reviews in (1) above.
- Using specialized expertise, the inspector should interview supervisors, SH&R, and workers as necessary, to verify that attributes not written into the Contractor's IH&S Plan are part of the program per the inspection plan generated in (2) above.

## **Appendix K. Respiratory Protection Program.**

### **A. Program Attributes**

An effective respiratory protection program is required by the IH&S Regulatory Plan, Appendix A, Section 12f, and 29 CFR 1926.103, which references 29 CFR 1910.134.

29 CFR 1910.134(b) states "Written standard operating procedures governing the selection and use of respirators shall be established." The construction safety standard for respiratory protection, 29 CFR 1926.103, requires compliance with the provisions of the general industry standard, 29 CFR 1910.134.

### **B. Guidance for Program Assessment**

The inspector should verify that the worksite-specific procedure governing the selection and use of respirators has been written and approved (29 CFR 1910.134(b)(1)) and is compliant with 29 CFR 1910.134 in a graded approach commensurate with the identified hazards in the workplace.

- The inspector should review the Contractor's IH&S Plan submittal, Section 8.7.
- The inspector should prepare a written inspection plan based on the Contractor's commitment made in the plan (and any supporting Contractor procedures on respiratory protection) and the requirements of 29 CFR 1910.134.
- The inspection plan should consider the level of risk of the worker based on a preliminary site visit and the requirements of 29 CFR 1910.134.

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## Appendix L. Safety Training Program.

NOTE: General safety training is an important means of protecting workers in the construction environment. Effective safety training is required by RL/REG-2000-04, Appendix A, Section 11, and 29 CFR 1926.21. Many of the specific IH&S required elements are already covered in other appendixes in this procedure.

### A. Program Attributes

The Contractor must provide workers, supervisors, managers, visitors, and worker protection professionals with appropriate training as required by RL/REG-2000-04, Appendix A, Section 11, and various sections of 29 CFR 1926. At a minimum, the training must include the following:

1. Training of each employee in the recognition and avoidance of unsafe conditions and the requirements applicable to his/her work to control or eliminate any hazards or other exposure to illness or injury. (29 CFR 1926.21(b))
2. Training on provisions of the hazard communication program. (Included in Appendix E of this procedure)
3. Training of employees who are required to enter confined or enclosed spaces as to the nature of the hazards involved, the necessary precautions to be taken, and the use of protective and emergency equipment. (29 CFR 1926.21(b)(6)(i))
4. First-aid training for selected individuals if the Contractor does not demonstrate that an infirmary, clinic, hospital, or physician is reasonably accessible in terms of time and distance to the worksite. (29 CFR 1926.50(c))
5. Respiratory protection program training. (29 CFR 1910.134)
6. Scaffolding training. (29 CFR 1926.454(a) and Appendix C of this procedure)
7. Fall protection program training. (Included in Appendix C of this procedure)
8. Training for workers who operate powered industrial trucks. (29 CFR 1926.602(d)) (details located in 29 CFR 1910.178(l)(1)(ii))
9. Training to ensure employee safety in using or working around ladders and stairways. (29 CFR 1926.1060(a)(1))
10. An electrical-safety training program. (Included in Appendix O of this procedure)
11. Training employees before implementing the emergency action plan. (29 CFR 1926.35(e))

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12. Lockout/tagout training program. (Included in Appendix G of this procedure).

**B. Guidance for Program Assessment**

The inspector should review the following:

1. The Contractor-listed training for each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his/her work to control or eliminate any hazards or exposure to illness or injury. At a minimum, the training program must provide:
  - Access to OSHA-sponsored training
  - Instructions dealing with recognition and avoidance of unsafe working conditions
  - Instructions dealing with handling or use of harmful substances (e.g., poisons and caustics)
  - Instructions dealing with harmful plants or animals, and appropriate first aid in the event of injury
  - Instructions dealing with handling or use of flammable liquids, gases, or toxic materials
  - Instructions dealing with confined spaces per 29 CFR 1926.21.
2. See guidance provided in Appendix E, Section B, item 4 of this procedure.
3. The provisions for instructing employees who are required to enter into confined or enclosed spaces as to the nature of the hazards involved, the necessary precautions to be taken, and the use of protective and emergency equipment. (29 CFR 1926.21(b)(6)(i))
4. The provision of the training program for providing first-aid training to selected individuals if the Contractor does not demonstrate that an infirmary, clinic, hospital, or physician is reasonably accessible in terms of time and distance to the worksite.
5. The provisions for instructing employees in the proper selection and use of respirators per 29 CFR 19190.134(b), (c), and (e).
6. The provisions of the health and safety plan that identify all employees who will be working on or around scaffolding and the provisions of the training program for scaffolding training for these employees. At a minimum, the training program shall include the following:
  - a. Training in recognizing hazards associated with the type of scaffolding being used and understanding the procedures to control or minimize those hazards. (29 CFR 1926.454(a))

- b. Training for all employees who work on, around, erect, move, etc., scaffolding. (29 CFR 1926.454(b))
  - c. Retraining when the employers determine the employee lacks the skill or understanding to be able to work safely around a scaffold. (29 CFR 1926.454(c))
7. See guidance provided in Appendix C, Section B, of this procedure.
8. Provisions for training workers who operate powered industrial trucks. At a minimum, that training should include the following:
- a. Provisions to verify that those who operate powered industrial trucks have been trained on the type of truck(s) being operated. (29 CFR 1910.178(l)(1))
  - b. Provisions for the employer to certify that each employee who operates a powered industrial truck has been trained according to 29 CFR 1910.178(l)(3). The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation. (29 CFR 1910.178(l)(6))
9. Provisions of the health and safety program for identifying employees who work on or around ladders and the provisions of the training program for employee safety in using or working around ladders and stairways. (29 CFR 1926.1060(a))
10. See guidance provided in Appendix O, Section B, of this procedure.
11. The provisions of the plan that describes employee training before implementing an emergency action plan. At a minimum, the following elements are to be included:
- a. Provisions for identifying the employees covered by the plan.
  - b. Provisions for identifying persons designated to assist in the safe and orderly emergency evacuation of employees. (29 CFR 1926.35(e)(1))
  - c. Provisions for when the employer is to review the plan with each employee covered by the plan. (29 CFR 1926.35(e)(2) and (3))

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## **Appendix M. Worker Protection Program.**

RL/REG-2000-04, Appendix A, requires the Contractor's program to reflect proven principles of safety management and work planning that promote accident prevention, employee involvement, and sound hazard analysis and control. The program attributes listed below should be reflected in the Contractor's Non-Radiological Worker Safety Plan (and in the Contractor's procedures that implement the plan) to deal with worker protection.

### **A. Program Attributes**

The Contractor will provide a documented program and plan that ensures the requirements of RL/REG-2000-04, Appendix A, and other related site-specific worker protection activities, are integrated into the performance of all tasks. (RL/REG-2000-04, Appendix A, Section 1b)

At a minimum, this documented program plan must do the following:

1. Provide a written management policy that encourages input from workers and will provide the goals and objectives of the worker protection program. (RL/REG-2000-04, Appendix A, Section 2)
2. Provide a qualified person or persons who direct and manage the worker protection program (WPP). (RL/REG-2000-04, Appendix A, Section 3)
3. Provide for the performance evaluation of employees who are assigned worker protection responsibilities and are held accountable for worker protection performance. (RL/REG-2000-04, Appendix A, Section 4)
4. Encourage employee involvement in developing program goals, objectives, and performance measures and in identifying and controlling hazards in the workplace. (RL/REG-2000-04, Appendix A, Section 5)
5. Make provisions to ensure protection of the workers' right to the following: (RL/REG-2000-04, Appendix A, Section 6)
  - a. Accompany DOE worker protection personnel during workplace inspections (on official time).
  - b. Express concerns related to worker protection.
  - c. 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 bodily harm to that individuals.
  - d. Have access to DOE worker protection publications, DOE-prescribed standards, and the organization's own worker protection standards or procedures applicable to the workplace.

- e. Observe monitoring or measuring of hazardous agents and have access to the results of exposure monitoring.
  - f. Be notified when monitoring results indicate they were overexposed to hazardous materials.
  - g. Receive the results of inspections and accident investigations upon request.
  - h. Be informed of their rights and responsibilities by appropriate means, including mechanisms such as the requirement for posting the appropriate DOE worker protection poster in the workplace where it is accessible to all workers.
6. Provide a reliable system for stopping work (through their supervisors) when an employee discovers exposure to imminent danger conditions or other serious hazards. The procedure shall ensure that any stop work authority is exercised in a justifiable and responsible manner if imminent hazards are discovered. (RL/REG-2000-04, Appendix A, Section 7)
  7. Make provisions for qualified health and safety personnel to review and provide comments on designs, procedures, and major changes or modifications to operations. (RL/REG-2000-04, Appendix A, Section 9a)
  8. Conduct health and safety evaluations of workplaces. Workers, supervisors, and managers will perform these evaluations routinely. Health and safety personnel will participate periodically. (RL/REG-2000-04, Appendix A, Section 9c)
  9. Ensure that a mechanism is in place for prioritizing and tracking to completion (abatement) all identified IH&S hazards that have been brought to management's attention through employee communications, health and safety self-inspections, regulatory inspections, or the design and procedure review process. (RL/REG-2000-04, Appendix A, Section 10)
  10. Require IH&S hazard analyses for each construction operation presenting hazards not experienced in previous project operations or for work performed by a different subcontractor. These analyses shall identify foreseeable hazards and planned protective measures, provide drawings and/or other documentation of protective measures that a professional engineer or other competent person is required to prepare, and define the qualifications of competent persons required for workplace inspections. (RL/REG-2000-04, Appendix A, Section 14a(1))
  11. Provide a designated representative (for worker protection) on site at all times during periods of active construction. This individual shall conduct and document daily inspections of the workplace to identify and correct hazards and instances of noncompliance with project safety and health requirements. (RL/REG-2000-04, Appendix A, Section 14a(3))

12. Ensure that subcontractors performing work at the facility comply with the requirements of RL/REG-2000-04 and the worker protection standards established by the Contractor. (RL/REG-2000-04, Appendix A, Section 13)

## **B. Guidance for Program Assessment**

The inspector should use, but is not limited to, the following guidelines for assessing compliance with the WPP attributes listed above:

1. Review the written management policy that describes those measures to be used by management to encourage and solicit input from workers and provides the goals and objectives of the worker protection program. Verify that the policy meets the requirements of RL/REG-2000-04, Appendix A, Section 2.
2. Review the program for the requirements of the qualified person(s) who directs and manages the worker protection program and interview the individual(s) about worker protection. This interview should focus on his/her education, qualifications, construction-related experience, and knowledge of DOE worker protection programs and the implementation of these programs.
3. Interview the manager of the individual responsible for the worker protection program and discuss how performance evaluations are conducted for such personnel. Evaluate copies of the Contractor's personnel appraisal forms and disciplinary policy to determine if accountability for worker protection performance and achievement of the policy goals are being met.
4. Ask the Contractor to furnish documentation that shows how the Contractor is encouraging employee involvement. This documentation could be in the form of safety meeting minutes, memorandums, and/or formal procedures. Set up interviews with a sampling of workers representative of the work in progress at the time of inspection.
5. Review the Contractor's plan and procedures to ensure that they include a mechanism for informing employees of their rights and responsibilities. The process should include a requirement for posting the DOE worker protection poster where it is accessible to all workers. See item B.4 above for the interview.
6. Obtain a copy of the Contractor's stop work procedure to ensure that workers can stop work, through their supervisors, when they discover employee exposures to imminent danger or serious hazards and that there is sufficient time to resolve the situation through normal methods. An adequate procedure should ensure that the stop work authority is exercised in a justifiable and responsible manner. See item B.4 above for the interview.
7. Review the documentation provided by the Contractor relative to the Contractor's efforts to identify existing or potential workplace hazards and evaluate the associated worker(s) relative risk for illness or injury. This requirement applies to facility designs/modifications; operations and procedures; and equipment, products, and services.

As such, it should be in the form of an IH&S design review effort and subsequent IH&S review of design changes that affect IH&S.

8. Review the documentation of workplace evaluations conducted by the Contractor's safety and health personnel in conformance to RL/REG-2000-04, Appendix A, Section 9b. Review two baseline surveys conducted by the industrial hygienist to determine that appropriate surveys are being conducted and that feedback from the results is being communicated to employees.
9. Review the procedures, databases, and status of identified IH&S hazards that have been brought to management's attention to verify the existence of a mechanism for properly prioritizing and tracking IH&S issues to completion. Investigate the hazard abatement tracking system. If workaround or interim measures that require new equipment, re-design, etc., have been deemed necessary based on the assessment of the cause for work stoppage, validate the progress of abatement.
10. Review the Contractor's program for IH&S hazard analysis. Review the written results of at least three hazard analyses. Concentrate especially on the thoroughness of the analysis, who participated in the analysis, qualifications of the persons performing the analysis, and the method by which the hazards were either corrected/abated or are being tracked for complete abatement.
11. Verify that the construction Contractor has designated a representative to be onsite at all times during periods of active construction. Examine documentation of daily inspections of the workplace to identify and correct hazards and instances of noncompliance with project safety and health requirements. Records should show how items of noncompliance and/or hazards will be abated.
12. Verify that the Contractor has passed on to subcontractors the requirement for the specification and implementation of an IH&S program which conforms to RL/REG-2000-04 requirements, by performing the inspection requirements of Appendix N to this procedure, and has performed sufficient assessments to verify that the subcontractor has conformed to the program and implementation requirements. Examine documentation of Contractor inspection activities which demonstrate that the subcontractor's IH&S program was evaluated for conformance to specified requirements and that the subcontractor had implemented the program requirements in the field.

## **Appendix N. Program Compliance for Subcontractors.**

In order for the construction Contractor to maintain a strong and consistent health and safety program, all employees must be aware of and follow all of the essential IH&S programmatic requirements. This can only be accomplished by formally notifying all affected subcontractors and their responsibility for those health and safety requirements.

### **A. Program Attributes**

At a minimum, the program shall include the following attributes:

1. The Contractor will ensure that all programmatic requirements, referenced in RL/REG-2000-04, will be formally transmitted to the sub-tier contractors for compliance. (RL/REG-2000-04, Appendix A, Section 13)
2. The subcontractor will acknowledge receipt of the formal programmatic requirements and formally provide written acceptance to comply with same. (RL/REG-2000-04, Appendix A, Section 13)

### **B. Guidance for Program Assessment**

The inspector should do the following:

1. Select three first-tier and one second-tier subcontractors randomly and request that the construction Contractor make all contract documents available to the inspector. All formal notifications by the Contractor and any acceptance for compliance by the subcontractor should be available within the contract documents. Examine each of the chosen contract documents and verify whether all IH&S program requirements have been formally transmitted for compliance to those selected subcontractors. The IH&S requirements are normally contained within an appendix of the formal contract.
2. Verify that formal acceptance of the construction Contractor's programs has been included within the contract files. During the process of negotiation and acceptance of a subcontract, the subcontractor will be required to sign and date a document that indicates the firm's full acceptance and willingness to comply with the entire contract, to include all appendixes. In some cases, some negotiation may occur between the Contractor and the subcontractor regarding certain elements of the original contract. Any negotiated changes pertaining to IH&S referenced programs should be so noted in the inspection report.

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## **Appendix O. Electrical Safety.**

RL/REG-2000-04, Appendix A Section 12h requires the Contractor to comply with the provisions of NFPA 70-E, "Electrical Safety Requirements for Employee Workplace." Section 2.5 of Part II of the standard requires the employer to implement an overall electrical safety program. Neither 29 CFR 1926, Subpart h, nor NFPA 70E require the Contractor to have a written program for electrical safety.

### **A. Program Attributes**

The Contractor's electrical safety program should include the following attributes based on the subsections of NFPA 70E, Part II Section 2.5:

1. Identification of the principles on which the electrical safety program is based. (NFPA 70E, Part II, Section 2.5.1.2)
2. Controls by which the electrical safety program is measured and monitored. (NFPA 70E, Part II, Section 2.5.1.3)
3. Specific procedures to be prepared before working on or near energized parts. (NFPA 70E, Part II, Section 2.5.1.4)
4. Job briefings before starting each job; these briefing may vary greatly depending on the task. (NFPA 70E, Part II, Section 2.5.1.5)
5. Hazard/risk evaluation for safety-related work practices. (NFPA 70E, Part II, Section 2.5.1.6)
6. Instructions to employees to remain alert and provisions for not assigning employees when their capacity to remain alert might be impaired by fatigue, illness, or other reasons. (NFPA 70E, Part II, Section 2.5.2)
7. Prohibitions against blind reaching. (NFPA 70E, Part II, Section 2.5.3)
8. Requirements for adequate illumination of work areas where energized conductors or components are present. (NFPA 70E, Part II, Section 2.5.4.1)
9. Prohibition of rings, watches, and other conductive articles of apparel. (NFPA 70E, Part II, Section 2.5.5)
10. Methods for handling conductive tools and equipment. (NFPA 70E, Part II, Section 2.5.6)
11. Requirements for insulated tools and equipment. (NFPA 70E, Part II, Section 2.5.7)
12. Instruction on using protective shields. (NFPA 70E, Part II, Section 2.5.8)

13. Requirements for using nonconductive portable ladders. (NFPA 70E, Part II, Section 2.5.9)
14. Requirements for testing confined spaces prior to entry. (NFPA 70E, Part II, Section 2.5.10)
15. Definition of qualifications of a person who can bypass interlocks to work on equipment. (NFPA 70E, Part II, Section 2.5.11)
16. Housekeeping requirements. (NFPA 70E, Part II, Section 2.5.12)
17. Restrictions on using flammable materials. (NFPA 70E, Part II, Section 2.5.13)
18. Prohibitions against modifying over-current protection. (NFPA 70E, Part II, Section 2.5.14)

**B. Guidance for Program Assessment**

The inspector should use, but are not limited to, the attributes listed above for assessing compliance of the Contractor's electrical safety program which are derived from NFPA 70E, Part II, Section 2.5 (all subparts).

Since no written program is required for compliance to NFPA 70E, the inspector should interview the WTP manager for specific programs, plans, or procedures the Contractor has in place to mitigate electrical safety hazards or incorporate the requirements listed above.



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## Appendix P. Programmatic Reporting.

The program requirements in DOE Order 232.1-1A,<sup>7</sup> *Occurrence Reporting and Processing of Operations Information*, require prompt and accurate reporting of incidents, along with appropriate investigation, to obtain accurate information to identify and correct the root causes, thereby preventing future incidents. Accurate records are necessary to identify problem areas, and allocate resources for prevention activities. In addition, the program requirements of DOE Order 231.1-1<sup>8</sup>, "Environmental Safety and Health Reporting," require the reporting of work-related injuries and illnesses for Contractor and subcontractor employees. Additionally, DOE Order 231.1-1, Chapter II, 2(b) invokes 29 CFR 1904.2 and requires the proper classification of illnesses and injuries and reporting this in the OSHA 200 Log. This appendix provides attributes for the evaluation of incident reporting program and should include the Contractor's program in this area. DOE Order 232.1-1A, Attachment 1, "Contractor Requirements Document," states, "the Contractor shall establish an Occurrence Reporting Program. In support of this requirement, the Contractor shall develop or revise implementing procedures . . . within 4 months . . . of the contract." This area must have a written program in place, which has as a minimum the following attributes:

### A. Program Attributes

The Contractor's IH&S reporting program has the following attributes:

- Provisions for timely identification, categorization, notification, and reporting to DOE management of reportable occurrences at DOE-owned and -leased facilities. (DOE Order 232.1A)
- Provisions for review of reportable occurrences to assess the significance, root causes, generic implication, and the need for corrective actions. (DOE Order 232.1A)
- Provisions for timely evaluation and implementation of appropriate corrective actions. (DOE Order 232.1A)
- Provisions for reporting work-related injuries and illnesses of Contractor and subcontractor employees. (DOE M 231.1-1 Chapter II, paragraph 2b/2d, and 29 CFR 1904)
- Provisions for the proper classification and recording of injuries and illnesses in the OSHA 200 Log. (29 CFR 1904.2)

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<sup>7</sup> Contract No. DE-AC27-01RV14136 between DOE and Bechtel National, Inc., dated December 11, 2000, Section J Attachment E, Section (b).

<sup>8</sup> Contract No. DE-AC27-01RV14136, Section J Attachment E, Section (b).

**B. Guidance for Program Assessment**

The inspector should review the Contractor's Non-Radiological Worker Safety and Health Plan to verify the plan does acknowledge the requirement to comply with DOE Order 231.1A, 232. 1-1A, and 29 CFR 1904.

The inspector should review the plan or implementing procedures referred to in the plan to verify that the attributes above were incorporated either in the plan or implementing procedures.

## **Appendix Q. Contractor Emergency Action Plans.**

Although Contractor emergency action plans are not directly addressed in RL/REG-2000-04, Appendix A, Section 16h, does refer to site emergency and disaster plans and addresses the medical portion of this plan. The CFR based worker protection program addresses this area via 29 CFR 1926.38, which requires an employee emergency action plan covering those designated actions employers and employees must take to ensure employee safety from fire and other emergencies. Therefore, this appendix addresses the requirement for a plan, which as a minimum, must have the following attributes:

### **A. Plan Attributes**

1. Provisions for a written plan.
2. Provisions for an alarm system.
3. Provisions for evacuation.
4. Provisions for training.

### **B. Guidance for Plan Assessment**

1. The written plan must have the following as a minimum: (29 CFR 1926.35(a))
  - a. Provisions for emergency escape procedures and emergency escape route assignments. (29 CFR 1926(b)(1))
  - b. Provisions for procedures to be followed by employees who remain to operate critical plant operations before they evacuate. (29 CFR 1926(b)(2))
  - c. Provisions for procedures to account for all employees after emergency evacuation has been completed. (29 CFR 1926(b)(3))
  - d. Provisions for rescue and medical duties for those employees who are to perform them. (29 CFR 1926(b)(4))
  - e. Provisions for the preferred means of reporting fires and other emergencies. (29 CFR 1926(b)(5))
  - f. Provisions for the names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan. (29 CFR 1926(b)(6))
2. Requirements for the alarm system must provide, as a minimum, the following: (29 CFR 1910.165)
  - a. Audible or visual alarm systems capable of being distinguished above ambient conditions. (29 CFR 1910.165(b)(2))

- b. Distinctive and recognizable signals for purpose of evacuation. (29 CFR 1910.165(b)(3))
  - c. Explanation to and procedures for employees on the preferred method of initiating emergency alarms. (29 CFR 1910.165(b)(4))
  - d. Provisions for properly maintaining and testing alarm systems. (29 CFR 1910.165(d)(1-5))
3. The employer shall establish in the emergency action plan the types of evacuation to be used in emergency circumstances. (29 CFR 1926.35(d))
4. Employee emergency action training program, which as a minimum, covers the following:
- a. Designation and training of a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees. (29 CFR 1926.35(e)(1))
- Review of the plan with each employee covered by the plan: (29 CFR 1926.35(e)(2))
- 1. Upon plan development or employee hiring.
  - 2. Upon change in employee's responsibilities or designated action under the plan change.
  - 3. Whenever the plan is changed.
- b. The availability of the written plan to new or existing employees. (29 CFR 1926.35(e)(3))