



# Team Product Document

## SSFL-EHS: Closure of ETEC Program

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## Supporting Document Summary of Change

Rev.	Summary of Change	Approvals and Date		
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%; border: none;"><b>HEALTH &amp; SAFETY PLAN FOR CONTRACT DE-AC03-99SF21530</b></td> <td style="width: 30%; border: none; text-align: right;">No. EPA-00060 Rev. G Page 1 of 1</td> </tr> </table>			<b>HEALTH &amp; SAFETY PLAN FOR CONTRACT DE-AC03-99SF21530</b>	No. EPA-00060 Rev. G Page 1 of 1
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A	<p>Document has been revised to remove material duplicated in other Boeing Procedures and to reflect current conditions. Additional minor editorial changes and corrections have been made. S. Lafflam has been removed from the approval list, per his statement that his approval is not necessary. Updated by K. Nishimura</p>			
B	<p>Document revised to reflect organizational and procedural changes since the last revision. Updated by R. Mako</p>			
C	<p>Document revised to change organizational name from Safety, Health and Environmental Affairs term to Environment, Health and Safety. Procedures incorporated by reference updated to reflect current practices.</p>			
D	<p>Document revised to reflect the following changes:</p> <ul style="list-style-type: none"> <li>• Project Managers no longer exist.</li> <li>• CBT Course 9CC4404, "HASP" is replaced with a required review of the current HASP requirements.</li> <li>• The Enterprise list of directive documents is updated.</li> <li>• The list of SSFL EHS programs is updated. The terminology change from "procedure" to "program" reflects a communication effort to improve local requirements' consistency with corporate requirements.</li> <li>• Reference to the Federal HAZWOPER standard was removed in favor of the Cal-DOSH regulatory reference.</li> <li>• Table 2 was revised to improve safety responses in the event flammable vapors are detected.</li> <li>• Heat stress controls in section 8.8 are updated.</li> <li>• The building facility demolition process flowchart, 653-T-020 is substituted for SOP C-102.001.</li> </ul> <p>Updated by R. Mako</p>			
E	<p>Document revised to reflect the following changes:</p> <ul style="list-style-type: none"> <li>• Updated Key Management Position and Responsibilities</li> <li>• Update directive documents</li> <li>• Miscellaneous editorial improvements</li> </ul> <p>Updated by R. Mako</p>			
F	<p>Document revised to indicate that John Jones is now the Federal Program Director. Other changes affected format only. Updated by R. Mako</p>			
G	<p>This is a major revision with changes throughout. The majority of this update clarifies that significant contract activities are performed through qualified subcontractors with Boeing oversight. Additional changes include incorporating references to relevant ETEC Closure documents, adding a process flow hart for incident investigation and hazard mitigation from Boeing BPI-1906, removing reference to the Boeing EHS Training Questionnaire, coordinating training requirements with those in EID-04450, <i>ETEC Closure Training Plan</i>, incorporating a reference to the responsibility for project personnel to suspend unsafe work, and indicate the updated emergency response number. Updated by R. Mako</p>	 P. Rutherford 6/5/2012		

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>5</b>
<b>2</b>	<b>REFERENCES AND REQUIREMENTS .....</b>	<b>5</b>
2.1	<i>References .....</i>	5
2.2	<i>Applicable DOE Requirements and ETEC Closure Documents .....</i>	5
2.3	<i>Boeing Documents Incorporated by Reference .....</i>	6
2.3.1	<i>Enterprise EHS Directive Documents Incorporated by Reference .....</i>	6
2.3.2	<i>SSFL EHS Programs Incorporated by Reference .....</i>	6
2.4	<i>Acronym List .....</i>	6
<b>3</b>	<b>KEY MANAGEMENT PERSONNEL AND ORGANIZATIONS .....</b>	<b>7</b>
3.1	<i>Environment, Health and Safety Director .....</i>	7
3.2	<i>Health, Safety and Radiation Services .....</i>	7
3.3	<i>Environmental Protection .....</i>	8
3.4	<i>Environmental Remediation .....</i>	8
3.5	<i>Person-in-Charge (PIC) .....</i>	8
<b>4</b>	<b>SITE DESCRIPTION .....</b>	<b>8</b>
4.1	<i>Radiological Facilities and Areas .....</i>	9
4.2	<i>Hazardous Materials Inventory .....</i>	9
<b>5</b>	<b>HAZARD MANAGEMENT .....</b>	<b>9</b>
<b>6</b>	<b>TRAINING .....</b>	<b>10</b>
<b>7</b>	<b>MEDICAL SURVEILLANCE .....</b>	<b>10</b>
<b>8</b>	<b>HEALTH AND SAFETY PROCEDURES .....</b>	<b>10</b>
8.1	<i>Authorizations .....</i>	11
8.2	<i>Visitors .....</i>	11
8.3	<i>General Hazards .....</i>	11
8.5	<i>Emergency Communication .....</i>	12
8.6	<i>Hazardous Materials Control .....</i>	12
8.7	<i>Heat Stress .....</i>	12
8.8	<i>Personal Protective Equipment (PPE) .....</i>	12
8.10	<i>Waste Management .....</i>	13
8.11	<i>Weather Conditions .....</i>	13
8.12	<i>Building/Facility Demolition .....</i>	13
<b>9</b>	<b>RADIOLOGICAL PROCEDURES .....</b>	<b>14</b>
9.1	<i>Basic Radiation Safety Guidelines .....</i>	14

9.2 *Prohibited Activities*.....14

**10 EMERGENCY RESPONSE PROCEDURES .....14**

*Appendix A Emergency Incident Reporting Flowchart* .....16

## 1 INTRODUCTION

The purpose of this Health and Safety Plan (HASP) is to ensure a safe working environment for Boeing employees and subcontractors working under the Department of Energy (DOE) Site Closure Contract. This contract encompasses the DOE facilities under the former Energy Technology Engineering Center (ETEC) and Atomics International (AI) operations within Area IV of the Santa Susana Field Laboratory (SSFL). This plan will be implemented, as required, for contract activities funded by the DOE.

ETEC was a DOE laboratory whose charter was to perform non-nuclear qualification testing for Liquid Metal Reactor program components, and then expanded to cover general energy technology. ETEC, as a separate organization, ceased to exist after December 1998; however, the term ETEC is still contained within some of the referenced documents and may be used to refer to areas of DOE ownership or responsibility.

Work performed under this contract, DE-AC03-99SF21530, Mod 109, is conducted under an Integrated Safety Management System (ISMS) which incorporates this ETEC Health and Safety Plan (HASP) as well as a Worker Safety and Health Program in accordance with 10 CFR 851 (contained in ETEC document EID-00062).

DD&D activities in Area IV were suspended following a DOE stop order received on May 24, 2007. The remaining work of greatest safety significance – Waste Management, Environmental Restoration, and Landlord Activities, will be implemented by Boeing through subcontractors. Boeing has established contractor safety management systems in accordance with 10 CFR 851, *Worker Safety and Health Plan*, Boeing PRO-2751, *Environmental, Safety, and Health Management Program for Service Providers*, and ETEC Program Bulletin, PB 08-009, *Demolition Subcontractor General Requirements*. Service Providers are required to follow the requirements contained in the Boeing Service Provider Manual for SSFL as well as specific contractual obligations. The Boeing Service Provider Manual contains requirements concerning emergency procedures, fire prevention, safety, and environmental as well as site-specific requirements.

In the process of implementing this HASP and assuring effective subcontractor safety oversight, several relevant Boeing Company procedures are incorporated (Section 2). Each subcontracted project activity involves the submission and review of a project-specific HASP that is reviewed for compliance with DOE, Boeing, Cal-OSHA, and other relevant regulatory requirements and to ensure the qualifications of the awarded organization using the Project Impact Evaluation System. Field activities are monitored during execution to assess effective protections, maintain two-way communication, and make improvements as needed.

All personnel performing field activities are required to review this plan to assure familiarity with the key concepts presented. Also, all personnel are expected to notify supervision or management of unsafe conditions or activities in a timely manner. Management is responsible for prompt investigation of all such concerns and for providing timely feedback.

## 2 REFERENCES AND REQUIREMENTS

All contract activities must comply with applicable health and safety laws and regulations, and contract-specific DOE orders. Generally, when best management practices conflict, the more protective requirements will be applied.

### 2.1 References

- 2.1.1 Disaster Preparedness Plan
- 2.1.2 SSFL Hazardous Materials Release Response Business Plan and Inventory

### 2.2 Applicable DOE Requirements and ETEC Closure Documents

- 2.2.1 10 CFR 835, Occupational Radiation Protection
- 2.2.2 DOE Order 5400.5, Radiation Protection of the Public and the Environment
- 2.2.3 10 CFR 851, Worker Safety and Health Plan
- 2.2.4 EPA-00046, *RMHF Contingency Plan*

- 2.2.5 EID-04450, ETEC Closure Training Plan
- 2.2.6 EID-04694, ETEC Closure Contract Integrated Safety Management System Description
- 2.2.7 QA-00003, Occurrence Reporting

### **2.3 Boeing Documents Incorporated by Reference**

The following Boeing directive documents (policies, procedures, instructions, and guides) are incorporated by reference into this HASP. Boeing Enterprise directive documents are designated as policies (POL), procedures (PRO) or Business Process Instructions (BPI). Certain guides, such as the Occupational Health Examination Guide for Providers are also mandatory. SSFL provides program documents to facilitate on-site communication of Boeing requirements contained in Enterprise directive documents.

#### **2.3.1 Enterprise EHS Directive Documents Incorporated by Reference**

1. POL-4, Environment, Health and Safety
2. PRO-910, Protection of Environment, Health and Safety
3. PRO-1018, Ergonomics
4. PRO-1030, Control of Ionizing Radiation Hazards
5. PRO-1032, Toxic Substances Control Act
6. PRO-1034, Occupational Health Examination
7. PRO-1909, Administration of Employee Corrective Action
8. PRO-2609, Environmental Remediation Action Management
9. PRO-2610, Hazardous Materials and Hazardous Waste Management
10. PRO-2621, Custody and Control of Employee Medical Information and Medical Records
11. PRO-2751, Environmental, Safety, and Health Management Program for Service Providers
12. PRO-2869, Emergencies and Major Accidents
13. PRO-5772, Safe Electrical Work Practices
14. BPI-1906, Incident Investigation and Hazard Mitigation Management
15. RF-020M, Occupational Health Examination Guide for Providers

#### **2.3.2 SSFL EHS Programs Incorporated by Reference**

1. Asbestos Program
2. Bloodborne Pathogens Program
3. Confined Space Program
4. Electrical Safety Program
5. Ergonomics Program
6. Fall Protection Program
7. Hazard Communication Program
8. Hearing Conservation Program
9. Heat Illness Prevention
10. Industrial Hygiene Program
11. Lead Program
12. Machine Guarding Program
13. Personal Protective Equipment Program
14. Powered Industrial Truck Program
15. Respiratory Protection Program
16. Service Provider Safety Program
17. SSFL IIPP
18. SM-40 Section IV, Radiological Health

### **2.4 Acronym List**

ALARA	As Low As Reasonably Achievable
BPI	Boeing Business Process Instruction
CCR	California Code of Regulations
CFR	Code of Federal Regulations

DD&D	Decommissioning, Decontamination and Demolition
DOE	Department of Energy
ETEC	Energy Technology Engineering Center
H&S	Health & Safety
HASP	Health and Safety Plan
IIPP	Injury and Illness Prevention Program
LEL	Lower Explosive Limit
MSDS	Material Safety Data Sheets
OSHA	Occupational Safety and Health Administration
PIC	Person-In-Charge
PPE	Personal Protective Equipment
PRO	Boeing Procedure
QA	Quality Assurance
RMHF	Radioactive Materials Handling Facility
EHS	Environment, Health and Safety
SSFL	Santa Susana Field Laboratory

### **3 KEY MANAGEMENT PERSONNEL AND ORGANIZATIONS**

This section describes the major responsibilities of key management personnel and organizations performing site closure activities. Other sections of this HASP describe duties and responsibilities of key personnel for completing specific activities.

#### **3.1 *Environment, Health and Safety Director***

The Environment, Health and Safety Director has overall responsibility for development and implementation of radiological, environmental, industrial hygiene, and industrial safety protocols and procedures. The SSFL EHS Director is also responsible for developing, administering and monitoring the Boeing-SSFL Injury and Illness Prevention Program (IIPP).

An EHS Cognizant Representative is the appropriate Environment, Health and Safety staff member who is judged to be acceptable to the EHS Director, ETEC Site Closure Management, or the Person-In-Charge (PIC) to provide guidance to the ETEC Site Closure project.

EHS Cognizant Representatives will serve as project contacts and aid the EHS Director in assuring that the policies and procedures of this HASP are implemented.

EHS Cognizant Representatives are the primary technical resource to Boeing employees for industrial hygiene, environmental protection, radiological, and industrial safety matters. EHS Cognizant Representatives are responsible for providing appropriate monitoring, safety equipment, and necessary resources to implement this HASP.

Personnel from the following functional EHS organizations may be assigned to support ETEC closure activities.

#### **3.2 *Health, Safety and Radiation Services***

Health, Safety and Radiation Services is responsible for safe practices regarding exposure to ionizing radiation. Radiation Safety technicians [Health Physics technicians] are assigned to the RMHF and other radiological remediation operations, as required, to insure operations are performed safely.

Radiation Services team members perform radiological monitoring, calibration, maintenance, and record keeping relating to radiation and radioactive materials.

Radiation Services has primary oversight for the assessment of radioactively contaminated facilities and grounds, including risk assessment, monitoring, sample analysis, surveys, and other activities related to radiological decontamination and decommissioning of facilities.

Health and Safety is responsible to assure proper industrial hygiene and industrial safety requirements are defined and communicated to field personnel and their supervisors.

### **3.3 Environmental Protection**

Environmental Protection will assist contract workers to implement proper hazardous material and waste handling practices.

### **3.4 Environmental Remediation**

Environmental Remediation includes inspection, assessment, and corrective action related to historic soil and groundwater contamination resulting from chemical contaminants entering the subsurface.

### **3.5 Person-in-Charge (PIC)**

The Person-in-Charge (PIC) is responsible for overseeing activities at a specific facility or field activity. Boeing identifies PICs as Boeing Onsite Activity Representatives (OARs) when overseeing contractor operations. The PIC shall coordinate with the appropriate Environment, Health and Safety (EHS) personnel to ensure compliance with this HASP. The PIC conducts pre-entry briefings into controlled areas and site familiarization training; controls access and egress to controlled areas; records significant events; implements approved procedures; maintains restoration activity files; and monitors field performance.

## **4 SITE DESCRIPTION**

The Santa Susana Field Laboratory, (SSFL) located on approximately 2,850 acres in the hills between Chatsworth and Simi Valley, CA, was developed as a remote site to test rocket engines and conduct nuclear research. Thousands of open-air rocket tests were conducted at the site that supported the space program. In 1996, Rockwell International sold its aerospace and defense business, including the SSFL, to The Boeing Company (Boeing). Boeing and NASA share ownership of the SSFL.

SSFL is divided into four administrative areas: Areas I, II, III and IV, and two undeveloped land areas. All DOE operations are contained in Area IV.

The Atomic Energy Commission (AEC) built a small nuclear power plant to deliver energy to the commercial grid. Research also included fabrication and testing of nuclear reactors to power satellites and testing of equipment using liquid metal sodium. DOE performed research work on 90 acres at ETEC. All nuclear research work at ETEC was completed in 1988, with all reactor operations ending in 1980. Facilities were removed after there was no longer a need for the specific facility beginning in the 1960s.

Security and emergency response personnel are provided by the SSFL Security & Fire Protection organization (S&FP). The Disaster Preparedness Plan details actions to be taken in the event of an emergency (reference 1). Access to the SSFL is controlled through a security control checkpoint. S&FP personnel routinely patrol buildings and roads within the SSFL. Visitors to the SSFL are required to sign in at the checkpoint and are typically escorted during their visit.

In Area IV, former research activities included nuclear reactor testing; development of nuclear fuel fabrication; solar-energy testing; liquid-metals research, development, and testing; and engineering support for DOE energy programs. Also, test activities were performed for fossil-energy conversion, a hybrid thermodynamic power-generation cycle, and seismic programs.

Site environmental investigations were performed to identify and quantify chemical and radiological contamination within Area IV. Previous investigations have provided extensive data regarding the radiological status of the site and facilities. This information permits an informed assessment of potential radiological hazards at the site. Chemical investigations have also been performed, focused primarily on environmental objectives. Asbestos surveys were performed at all Area IV facilities to identify asbestos-containing materials to assure personnel safety and proper disposal of asbestos-containing wastes.

#### **4.1 Radiological Facilities and Areas**

Two facilities in Area IV remain to be remediated, Building 4024 and the RMHF complex. Concrete activation (Co-60, Eu-152 and Eu-154) still exists inside the vaults of Building 4024. Radioactive wastes are stored in sealed containers in the RMHF. All radioactive wastes are contained with the exception of low levels of soil contamination at the RMHF.

Radioactive materials locations of in Area IV are posted and labeled, with the appropriate cautionary signage. Access to buildings, rooms and areas with radiation caution signs is forbidden without the appropriate training, PPE and dosimetry.

#### **4.2 Hazardous Materials Inventory**

Hazardous materials used in Area IV are listed in SSFL Hazardous Materials Release Response Business Plan and Inventory (Reference 2.1.2). Material Safety Data Sheets (MSDS) are available on-line at the SSFL EHS home page.

Radiological materials and limited quantities of fuels, lubricants, compressed gases and hazardous wastes are present within Area IV. MSDS are readily available through the EHS web site.

### **5 HAZARD MANAGEMENT**

Consistent with the ETEC Integrated Safety Management System (ISMS) Description (EID-04694), monthly safety audits of the ETEC area are conducted and reports distributed to cognizant Boeing personnel. As necessary, corrective actions are initiated and tracked to completion.

Contract activities are assessed to ensure that attendant hazards are identified, evaluated, and appropriate mitigations are in place. Before subcontractor projects are begun, Boeing apprises the subcontractor of serious, non-obvious hazards that exist in the work area. ETEC Site Closure Management is responsible to ensure that appropriate HASPs, including hazard assessments and mitigations, are prepared for planned projects according to Boeing PRO-910, *Protection of the Environment, Health, and Safety* and PRO-2751, *Environmental, Health, and Safety Management Program for Service Providers*. HASPs are reviewed by Boeing management and designated subject matter experts using the Project Impact Evaluation System before work is authorized to proceed. Hazards are mitigated in order of priority, by elimination, substitution, engineering control, administrative control, personal protective equipment (PPE), or a combination of controls as necessary to address the hazard effectively.

The Program Management Office allocates needed resources to perform additional assessments and/or create procedures, when necessary, to ensure the health and safety of personnel.

In the event of an incident, the circumstances will be evaluated and an appropriate investigation conducted. Occurrence reporting will be conducted as described in QA-00003, *Occurrence Reporting*. Boeing investigation and reporting will be conducted as described in BPI-1906, *Incident Investigation and Hazard Mitigation Management*. The process flow for incident investigation and hazard mitigation required by BPI-1906 is illustrated in Figure 1 below –

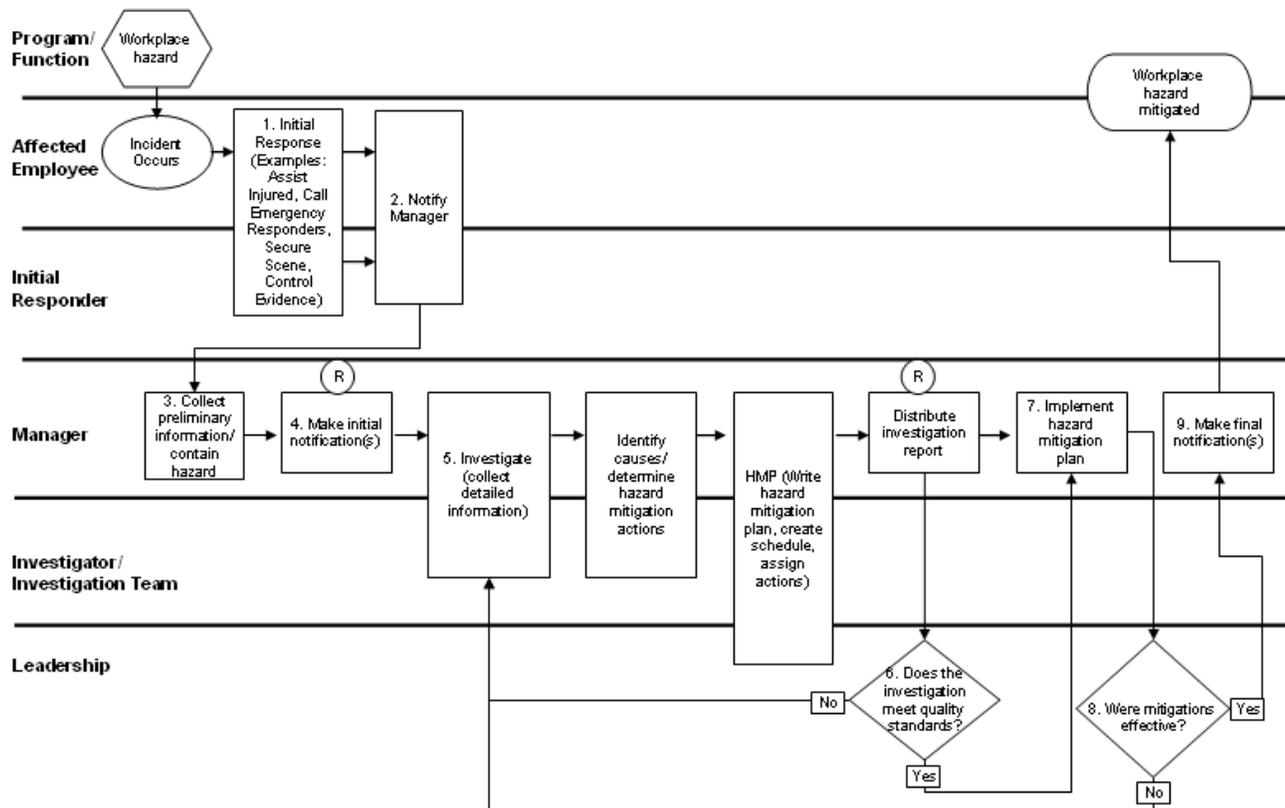


Figure 1 – Boeing BPI-1906 Incident Investigation and Hazard Mitigation Process Flow

## 6 TRAINING

Applicable training requirements are identified in EID-04450, *ETEC Closure Training Plan* and are tracked through Boeing “My Learning” or as otherwise indicated in EID-04450.

## 7 MEDICAL SURVEILLANCE

Personnel who meet the medical surveillance criteria contained in Cal-OSHA regulation, T8 CCR 5192 (f), *Hazardous Waste Operations and Emergency Response*, or, for Boeing employees, RF-020M, *Occupational Health Examination Guide for Providers*, are required to be provided appropriate medical surveillance consistent with their exposures. Boeing employees participate in the Boeing Occupational Health Examination Program in accordance with PRO-1034, *Occupational Health Examination Program*.

## 8 HEALTH AND SAFETY PROCEDURES

This section addresses health and safety procedures to be followed by field personnel. These procedures address the minimum requirements to ensure the safety of personnel and to protect the environment. Management, the PIC, and employees, with guidance from Health, Safety and Radiation Services, are responsible for ensuring that the appropriate procedures are followed.

Engineering controls, safe work practices, administrative measures, and personal protective equipment (PPE) will be used to minimize contamination or injuries. Personnel are potentially exposed to radiological, chemical, electrical, mechanical, and natural environment hazards (see Section 8.3).

The PIC will communicate serious, non-obvious hazards before work is initiated. When tasks or hazards are encountered that require more detailed procedures, the PIC, with guidance from EHS, will provide the necessary procedures prior to starting those tasks. Subcontractors will provide a HASP appropriate for the required activities as described in section 1 *Introduction* and section 5 *Hazard Management* which will

be reviewed by appropriate Boeing management and designated EHS subject matter experts before work is authorized to proceed.

### **8.1 Authorizations**

Authorization must be received from Boeing before work is permitted to begin. Boeing management or the PIC must specifically authorize entry into controlled work areas, such as confined spaces. Authorization is contingent on confirmation of appropriate qualifications, such as completion of appropriate training and medical qualification.

### **8.2 Visitors**

Visitors must comply with applicable training and personal protection requirements. If a visitor does not adhere to the provisions of this HASP, the PIC will deny the visitor access to work areas. The PIC and/or Health, Safety and Radiation Services will give visitors a "pre-entry briefing" prior to entering remediation sites or facilities, as required.

### **8.3 General Hazards**

Waste management, environmental remediation and landlord activities have the potential to cause injury to workers. The types of hazards that can occur include, but are not limited to: falling or slipping from equipment or uneven terrain; tools or equipment falling on workers; mechanical failure of equipment; injuries from sharp or splintering materials; and vehicle collisions with workers, equipment, or other vehicles. Safety measures and management controls described in referenced Boeing procedures and subcontractor HASPs are used to minimize injuries.

PICs and EHS Cognizant Representatives will monitor work areas and activities to identify and mitigate potential hazards.

The following safe work practices must be followed:

1. Eating, drinking, chewing gum, or any other practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited within controlled areas.
2. Workers shall avoid bodily contact with contaminated materials or equipment.
3. Workers shall notify the PIC of potentially dangerous situations (e.g., strong, irritating, and/or nauseating odors; high dust concentrations). Any employee may stop work if a situation cannot be controlled until appropriate control measures can be implemented. No other worker will be asked to perform the task in question until all safety issues have been addressed..
4. Workers shall use work practices that minimize spills. If a spillage occurs, appropriately qualified workers shall use spill control equipment to contain spills and notify the PIC who shall perform event notifications per the event reporting flow chart (Appendix A).
5. Workers shall be cognizant of physical characteristics of the work site including, but not limited to: wind direction; accessibility to fellow workers, equipment, and vehicles; available communications; control zones; work area access; emergency equipment (e.g., eyewash & safety showers); and nearest emergency assistance.
6. After working in a contaminated area or handling sample containers, workers shall wash their face, neck, and hands prior to eating, drinking, or smoking. While working in a contaminated area, workers shall keep hands away from their mouth and eyes.
7. Workers shall report injuries or near misses (i.e., when personal injury did not occur, but could have occurred). The PIC shall notify Security & Fire Protection personnel at 818-466-8900 for a non-emergency or 2-2222 (562-797-2222 from a cell phone) for an emergency. The worker(s) involved shall notify the PIC, who will determine, with assistance from Health, Safety and Radiation Services, whether Occurrence Reporting is required in accordance with QA-0003, *Occurrence Reporting*. Management will also submit an initial Boeing incident investigation report by the end of the next business day.
8. The PIC has the authorization to restart work after a safety related work stoppage with guidance from EHS. This guidance may be verbal for minor safety items or may require written direction for more complex issues.

## **8.5 Emergency Communication**

Telephones or radios may be used to summon emergency services or assistance as necessary. Office phones, cell phones, or two-way radio can be used to communicate from the work site.

The emergency phone number at SSFL is 2-2222. If using a cellular phone, dial (562) 797-2222. If using a Boeing radio, summon the Boeing Communication Center from channel 2.

## **8.6 Hazardous Materials Control**

Hazardous materials use must comply with Cal-OSHA T8 CCR 5194, *Hazard Communication* as well as Boeing PRO-1029, *Hazard Communication* and PRO-2610, *Hazardous Materials and Regulated Waste Management*. The following requirements are included in these references:

- Hazardous materials must be labeled with the identity of the product, the manufacturer or distributor and appropriate hazard warnings. With few exceptions, secondary containers must have secondary labels.
- Employees must be provided with information and training for the hazardous materials in their work area.
- Substances regulated by the Safe Drinking Water and Toxics Enforcement Act of 1986, commonly known as Proposition 65 ([HSC 25249.5](#)) require compliance with the Cal/OSHA Hazard Communication Standard.
- Hazardous materials are received at the designated Authorized Receiving Area.
- MSDSs received at the Authorized Receiving Area are forwarded to site H&S to assure that the revisions are updated in the Boeing MSDS system or Project Impact Evaluation System.
- Purchase Contracts for hazardous materials, and services for material handling and transportation and waste disposal must include terms and conditions that have been approved by the Boeing Law Department.
- All hazardous materials must be acquired using approved Supplier Management processes. This includes obtaining no-charge samples and purchase card procured items.
- Approval must be obtained for a new hazardous material, regardless of intended use, from site EHS prior to acquisition
- Permits must be obtained as required from regulatory agencies based on the process, application, or equipment in which hazardous materials are used.
- When moving hazardous materials within the Boeing contiguous boundary, with no public access, personally owned vehicles may not be used to transport Boeing or Customer owned hazardous materials or wastes.
- All equipment and tooling containing hazardous materials released as surplus must first be appropriately decontaminated prior to shipment from the originating site.
- Equipment and tooling containing hazardous materials that cannot be reused as is, resold, or donated for its intended use or sold as scrap will be managed as solid waste.

## **8.7 Heat Stress**

Controls are instituted to minimize the risks of heat stress in compliance with 8 CCR 3395, *Heat Illness Prevention*. Sufficient work breaks, shade, mechanical ventilation, water spray, and fluids (e.g., water, electrolyte replacement drinks) are provided for workers to alleviate heat stress conditions. High ambient temperatures, high humidity, and/or use of protective clothing that limits perspiration and/or increases body temperature can increase heat fatigue symptoms and physical discomfort.

Project-specific HASPs will include appropriate heat illness prevention plans. The PIC and project personnel will watch for symptoms of heat stress: dizziness, profuse sweating, skin color change, vision problems, confusion, nausea, slurred speech, fatigue, fainting, and clammy skin. Workers who suffer from heat illness will immediately be removed from the work area and allowed to rest in a cool, shaded area. Emergency assistance may be summoned by radio or dialing 2-2222 (562-797-2222 from a cell phone).

## **8.8 Personal Protective Equipment (PPE)**

PPE is used for protection when higher order controls are not completely effective. The appropriate PPE is determined after a hazard assessment is performed, must be appropriate for the user and comply with relevant performance standards. Project-specific HASPs will specify any necessary PPE requirements. Any PPE required to enter the perimeter of the project area, such as hard hats, safety glasses, safety-toe footwear, and safety vests will be posted. Personal protective clothing for radiation protection is prescribed in SM-40 403, "Conduct of Radiological Work."

PPE must be stored in a clean, dry, sanitary area free from contamination or detrimental environmental effects.

If indicated, a PPE determination will re-evaluated so that alternative methods may be considered. The PIC and EHS Cognizant Representative will agree on any proposed changes.

### **8.10 Waste Management**

Hazardous wastes will be managed according to Boeing procedure PRO-2610, *Hazardous Materials and Regulated Waste Management* and SSFL procedures C-203, *Hazardous Waste Management Program* and EID-04482, *Packaging and Shipment of Radioactive Waste*.

Subcontractors must accumulate and store hazardous wastes in Boeing-supplied hazardous waste storage containers in designated storage areas. Boeing will ensure proper disposition.

Historical process data shows the potential for soil and/or groundwater and/or concrete/asphalt contamination. If any indication of potential contamination spots is identified in soil, concrete, or asphalt, the subcontractor shall immediately stop the project and notify the PIC.

Discarded material, waste, or contaminated equipment will be handled to minimize waste and to mitigate spreading contamination, creating a sanitary hazard, or resulting in litter. Waste minimization includes all practices that reduce, avoid, or eliminate the generation of waste at the source. It also includes practices that reduce or eliminate the quantity of previously generated waste prior to its disposal.

Disposable clothing, unusable tools and equipment, and decontamination supplies that are designated as waste will be secured in their appropriate containers, labeled, and disposed of appropriately.

### **8.11 Weather Conditions**

When performing outside tasks during adverse weather conditions, the PIC will decide whether to continue outside tasks. The PIC will evaluate the following potential hazards to worker health and safety:

1. Heavy rainfall
2. Potential for heat or cold-related illness
3. Limited visibility
4. High winds
5. Potential for electrical storms
6. Potential for malfunction of monitoring equipment
7. Potential for accidents
8. Wind chill factor

When electrical storms threaten the safety of outdoor activities, the guidance contained in the SSFL Injury & Illness Prevention Plan will be followed.

### **8.12 Building/Facility Demolition**

Building and facility demolition activities within the scope of the Area IV remediation project will be performed in accordance with PB 08-009, *Demolition Subcontractor General Requirements*. The demolition of buildings or structures at SSFL is managed by Support Systems Group (SSG) and supported by ETEC Site Closure Management, Cognizant EHS, Security and Fire Protection, Finance, and Property Administration prior to initiating activities to ensure that appropriate planning, permitting and site preparation are complete.

## 9 RADIOLOGICAL PROCEDURES

Radiological operations are conducted in accordance with PRO-1030, *Control of Ionizing Radiation Hazards* and SM-40, Section IV, *Radiological Health*. Exposures will be maintained "As Low As Reasonably Achievable" (ALARA) through an effective program of planning, reviewing, training, monitoring, surveillance, and deliberate use of engineered safeguards, administrative controls, and personal protective equipment.

### 9.1 *Basic Radiation Safety Guidelines*

Project personnel shall:

1. Obey posted, written, and verbal radiological control instructions and procedures, including instructions on Controlled Work Permits
2. Suspend unsafe work until appropriate protections are in place and promptly report unsafe work activities or conditions to management
3. Obey "evacuate" and "stop work" orders from Health, Safety and Radiation Services personnel promptly
4. Wear personnel monitoring devices where required by Controlled Work Permits, signs, procedures, or by Health, Safety and Radiation Services personnel
5. Report immediately the loss, damage or unexpected exposure of personnel monitoring devices or off-scale readings of self-reading dosimeters to Health, Safety and Radiation Services
6. Keep track of personal radiation exposure status and avoid exceeding radiological Administrative Control Levels
7. Wear Personal Protective Equipment (PPE) and clothing properly whenever required by Controlled Work Permits or postings
8. Be alert to the potential for radioactive spills. Minimize the spread of radioactive spills and promptly notify the appropriate personnel of all spills
9. Avoid contact of skin, clothing and equipment with contaminated surfaces
10. Place contaminated tools, equipment and solid waste items on disposable surfaces, such as plastic sheets, when not in use
11. Notify Health, Safety and Radiation Services personnel of alarming or faulty radiological control equipment
12. Notify Health, Safety and Radiation Services personnel of off-site occupational radiation exposures so that worker dosimetry records can be accurately maintained
13. Limit the amount of material taken into contaminated areas to minimize radioactive waste and future decontamination
14. Have necessary materials and equipment on hand to complete the task, thereby minimizing time and exposure
15. Notify Health, Safety and Radiation Services personnel of the presence of open wounds, sores or rashes before entering an area where contamination exists and exit immediately if a wound occurs while in such an area.
16. Properly remove personnel protective equipment clothing to minimize the spread of contamination.
17. Frisk or be frisked for contamination when leaving posted Contamination or Airborne Radioactivity Areas and associated Radiological Buffer Areas and notify Radiation Services personnel when contamination is found.

### 9.2 *Prohibited Activities*

1. Project personnel shall not loiter in radiation areas.
2. Project personnel shall not smoke, eat, drink or chew in Contamination Areas and Airborne Radioactivity Areas.
3. All tobacco products are prohibited on Boeing property.

## 10 EMERGENCY RESPONSE PROCEDURES

SSFL emergency plans are documented in the site Emergency Preparedness Plan and the RMHF Contingency Plan, EPA-00046.

Emergency organizations shall respond in accordance with the Emergency Preparedness Plan. The On-scene Incident Commander from Security & Fire Protection shall assume overall control and direction of emergency activities.

Personnel shall follow orders from the On-scene Incident Commander as quickly as possible. The PIC and workers shall assist emergency personnel to evacuate, treat, and/or transport personnel if they are needed and are properly trained. The PIC shall be the On-scene Incident Commander until emergency personnel arrive, and shall comply with applicable emergency procedures.

When any emergency is observed, such as a fire, explosion, injury, or hazardous material spill, employees will notify Security & Fire Protection immediately by dialing x 2-2222, or 562-797-2222 from a cell phone, and describing the location and nature of the emergency.

Personnel who are in an affected area will follow instructions from Security & Fire Protection.

Management or Security & Fire Protection will be responsible to issue emergency instructions or order an evacuation of personnel. After being ordered to evacuate, the PIC will order all work to be safely halted, secure logbooks and records, and order that any required utilities be de-energized.

# Appendix A Emergency Incident Reporting Flowchart

