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Identify the new, removed, or changed sections/appendices/exhibits/attachments:			
Changes are reflected with revision bars in the attached markup of the existing document.			
Scope of Proposed Change:			
The changes in this PCN are made to update references and acronyms (added Appendix C), and to include best practices. The changes in this PCN add Life Critical Requirements and Mobile Equipment Personnel Interface to New Employee Orientation. Other updates include enhancing language throughout to ensure the Plan continues to adjust to Project evolution. Changes are identified with revision bars.			

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This document has been reviewed by a Y-12 DC / UCNI-RO and has been determined to be UNCLASSIFIED and contains no UCNI. This review does not constitute clearance for Public Release.

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Bechtel National Inc. (BNI) Uranium Processing Facility (UPF) Environment, Safety, and Health (ES&H) Plan

April 2017

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URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



Revision Log

Revision	Reason/Description of Change
0	Initial issue.
1	<p>Complete rewrite.</p> <p>This Plan provides an overarching management system the UPF Project will use to guide ES&H programs for personnel, processes and procedures, and other resources, as necessary, over the engineering, procurement, construction (EPC) phases of the UPF Project. This Plan addresses Issue Management System (IMS) Issue Number 31516859 and PL-PM-801768-A053, <i>Action Plan for the September 2015 NNSA HQ's Semi-Annual Peer Review of the Uranium Processing Facility Project</i>, Revision 0.</p>

**BECHTEL NATIONAL, INC.
 URANIUM PROCESS FACILITY
 ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
 PL-SH-801768-A007 Rev 1**



TABLE OF CONTENTS

1 INTRODUCTION/ BACKGROUND INFORMATION6
 1.1 SCOPE.....6
 1.2 RELATIONSHIP TO OTHER PLANS.....6
 1.3 OBJECTIVES AND PURPOSE OF THE BNI UPF ES&H PLAN7
2 ES&H POLICY.....7
3 INTEGRATED SAFETY MANAGMENT.....8
 3.1 GUIDING PRINCIPLES.....8
 3.2 ISM CORE FUNCTIONS.....9
4 LEADERSHIP AND COMMITMENT9
 4.1 BECHTEL TEAM ORGANIZATION.....9
 4.2 BNI PROJECT MANAGEMENT10
 4.3 ENVIRONMENTAL, SAFETY, AND HEALTH.....10
 4.4 CONSTRUCTION MANAGER (CM)11
 4.5 CONSTRUCTION SUPERVISION.....11
 4.6 BNI PROJECT SUPERVISION13
 4.7 EMPLOYEES14
5 EMPLOYEE COMPETENCY AND BEHAVIOR MANAGEMENT15
 5.1 NEW EMPLOYEE ORIENTATION.....15
 5.2 SUPERVISOR ES&H TRAINING16
 5.3 SAFETY MEETINGS AND OJT SESSIONS16
 5.4 SPECIALIZED TRAINING.....17
 5.5 EMPLOYEE HAZARD COMMUNICATION/ "RIGHT-TO-KNOW"17
 5.6 VISITOR BRIEFINGS.....17
 5.7 ES&H ENGAGEMENT AND COMMUNICATION17
6 WORKER PROTECTION18
 6.1 ZERO INCIDENTS PROGRAM.....18
 6.1.1 PROGRAM GOALS AND OBJECTIVES:18
 6.1.2 ZERO INCIDENT CRITERIA.....18
 6.1.3 ZERO INCIDENT PERFORMANCE KEY ELEMENTS.....19
 6.1.4 ZERO INCIDENT TEAM.....20
 6.2 SAFETY AND HEALTH TRAINING PROGRAM.....21
 6.3 MOBILE EQUIPMENT / PERSONNEL INTERFACE (MEPI).....21
 6.4 SAFETY TASK ANALYSIS RISK REDUCTION TALK (STARRT)21
 6.5 PEOPLE-BASED SAFETY (PBS)21
 6.6 SELF-ASSESSMENT PROGRAM.....22
 6.6.1 SUPERVISORS AND MANAGERS22
 6.6.2 SELF-ASSESSMENT BY PROJECT PERSONNEL22
 6.6.3 LINE MANAGEMENT SELF-ASSESSMENT PROGRAM22
 6.7 LESSONS LEARNED PROGRAM.....23
7 ORGANIZATION AND RESOURCES.....23
 7.1 INTERFACES.....23
 7.1.2 OCCUPATIONAL MEDICINE23

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



7.1.3	DRUG AND ALCOHOL POLICY	23
7.1.4	RADIOLOGICAL CONTROL PROGRAM	24
7.1.5	INDUSTRIAL HYGIENE	24
8	MANAGING HAZARDS AND RISK	24
8.1	HAZARD IDENTIFICATION	24
8.1.2	HAZARD IDENTIFICATION AND REPORTING	24
8.1.3	HAZARD ANALYSIS IN DESIGN, JOB HAZARD ANALYSIS (JHA).....	25
8.1.4	HAZARD PREVENTION AND CONTROL.....	25
8.2	PRE TASK ANALYSIS (STARRT)	25
8.3	RISK ASSESSMENT	25
9	ES&H PLANNING AND DOCUMENTATION.....	26
9.1	WORK PACKAGES	26
9.2	PROCEDURES	26
9.3	REQUEST FOR WAIVER OR DEVIATION.....	26
10	PROCUREMENT CONTROL	26
11	WORKING WITH SUBCONTRACTORS.....	27
11.1	SUBCONTRACTOR SELECTION AND OVERSIGHT.....	27
11.2	SUBCONTRACTOR COMPANY REQUIREMENTS.....	27
12	ACCIDENT / INCIDENT INVESTIGATION AND REPORTING.....	28
12.1	INJURY/ACCIDENT REPORTING.....	28
12.2	CHAIN-OF-NOTIFICATION.....	28
12.2.1	INVOLVED PARTY	28
12.2.2	SUBCONTRACTOR SUPERVISION	28
12.2.3	BNI UPF ES&H MANAGER OR DESIGNEE	29
12.3	INCIDENT RECORDKEEPING	29
12.4	ES&H COMPLIANCE ENFORCEMENT	29
13	EMERGENCY RESPONSE	29
14	STOP WORK AUTHORITY	30
14.1	EMPLOYEES	30
14.2	STOP WORK AUTHORITY AND SELECTED EMPLOYEES AUTHORITY	30
15	OVERSIGHT AND SURVEILLANCES.....	31
15.1	PROJECT MANAGEMENT & FUNCTIONAL OVERSIGHT	31
15.2	WORK OVERSIGHT AND SURVEILLANCE	31
16	MATRIX OF APPLICABLE CODES, REGULATIONS, STANDARDS, AND DIRECTIVES.....	32
17	ZERO TOLERANCE DISCIPLINARY ACTIONS	32
	APPENDIX A – SUBCONTRACTOR REQUIREMENTS MATRIX	33
	APPENDIX B – LIFE CRITICAL REQUIREMENTS.....	34
	APPENDIX C – ACRONYMS	36

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



1 INTRODUCTION/ BACKGROUND INFORMATION

The Bechtel National, Inc. (BNI) Uranium Processing Facility (UPF) Environmental, Safety and Health (ES&H) Plan, is a project-level document that provides an overarching management system the UPF Project will use to guide ES&H programs for personnel, processes and procedures, and other resources, as necessary, over the engineering, procurement, construction (EPC) phases of the UPF Project. The BNI UPF ES&H Plan summarizes the general ES&H program requirements from regulatory, client and internal sources. The BNI UPF ES&H Plan describes the ES&H organization, its roles, responsibilities, and practices, along with strategies for interface with UPF Project Management and the client, Consolidated Nuclear Security, (CNS).

1.1 SCOPE

The BNI UPF ES&H Plan addresses ES&H program elements applicable to personnel working on the UPF Project, including on-site subcontractors and their lower tier subcontractor employees, visitors, on-site suppliers/vendors, and CNS employees (or their representatives) to ensure regulatory and client compliance and continuous ES&H performance improvements, while still applying the goal of Zero Incidents. Specific applicability to subcontractors (and their lower-tier subcontractors) is identified in subcontract documentation (also see Appendix A, *Subcontractor Requirements Matrix*).

It is the UPF Project's intent to meet or exceed the applicable requirements of the Bechtel National, Inc. (BNI) UPF subcontract 4300092952, and all applicable federal, state and local regulatory, and Nuclear, Security, and Environmental (NS&E) requirements/standards (see Section 16, Matrix of Applicable Codes, Regulations, Standards, and Directives). The elements contained in this BNI UPF ES&H Plan are established to help promote/achieve maximum protection for employees, authorized visitors, and the environment.

1.2 RELATIONSHIP TO OTHER PLANS

This BNI UPF ES&H Plan establishes program elements that apply throughout the life cycle of the UPF Project, and forms the basis for development of related project procedures and plans, ES&H related training, and safe work practices during the Engineering, Procurement and Construction phases. Refer to PL-PJ-801768-A007, *CNS UPF ES&H Plan* and ICD-PM-801768-A001, *Interface Control Document for CNS Mission Assurance for ES&H Support* for CNS execution measures. Safety, health and environmental integrity in design will be covered in the UPF Project Engineering procedures. Refer to ML-EG-801768-A017, *UPF Engineering Document Coordination Guide and Matrix*.

In keeping with the Project's document hierarchy guidelines (see Y15-95-234PD, *Uranium Processing Facility Project Document System Program Description*, supplemental plans and procedures will be developed, as necessary, to describe specific ES&H requirements associated with specific tasks of the UPF Project.

In addition, PL-SH-801768-A009, *Uranium Processing Facility Project Construction Environmental Control Plan* shall be followed.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



ES&H Risk Management (hazard analysis) methods will be used to ensure the program and associated procedures address risks identified with each task.

1.3 OBJECTIVES AND PURPOSE OF THE BNI UPF ES&H PLAN

This Plan establishes a basis for management of ES&H requirements, procedural requirements, minimum program requirements, and defines responsibilities for implementation. The Plan objectives are to:

- Provide guidelines for the integration and uniform implementation of the ES&H program to ensure compliance with requirements for the UPF Project activities during construction and pre-operational phases.
- Establish responsibilities and accountability for the ES&H program for the construction and pre-operational phases on the UPF Project.
- Develop the requirements for special ES&H procedures and programs for work efforts during the construction and pre-operational phases.
- Provide an outline for initial and continuing ES&H training.

2 ES&H POLICY

The UPF Project ES&H policy is to provide and maintain a safe and healthful working environment, where hazards are identified, communicated and mitigated to the fullest extent possible, for its employees, visitors, and the general public. This BNI UPF ES&H Plan establishes the UPF ES&H management system and is based upon the NS&E ES&H Manual/Bechtel Core Processes (CP).

The UPF Project is dedicated to the concept that all accidents are preventable. Accordingly, the company is committed to achieving and sustaining "Zero Incident Performance" through continuous improvement practices. The objectives associated with this Policy are as follows:

- Strive to eliminate all injuries and illnesses.
- Promote environmental, safety and health objectives as a constant value in designing, planning, training and executing work.
- Spread ownership for ES&H program effectiveness throughout the UPF Project.
- Enhance employee awareness and involvement in our environmental, safety and health program implementation.
- Increase employees' consistent utilization of safe practices in their daily work activities.
- Optimize the use of continuous improvement practices as the basis for "Zero Incident Performance" initiatives
- Demonstrate to the client and to the public that UPF is "Dedicated to Safety Excellence."
- Select subcontractors that are committed to "Zero Incident Performance".

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



3 INTEGRATED SAFETY MANAGEMENT

This section outlines the guiding principles and core functions that make up the Integrated Safety Management (ISM) approach for a strong Incident Prevention Plan. ISM is based upon the inclusion of ES&H awareness and requirements in all aspects of work.

3.1 GUIDING PRINCIPLES

The guiding principles that are part of the UPF ISM approach are:

- **Line Management Responsibility for Safety.** Line management is responsible for the safe and efficient conduct of work to ensure the protection of the public, the workers, and the environment.
- **Clear Roles and Responsibilities.** Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels.
- **Competence Commensurate with Responsibilities.** Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.
- **Balanced Priorities.** The focus of the priorities will be to first focus on worker safety above all else. This will serve to also protect the public and the environment. Resources are effectively allocated to address safety, programmatic, and operational considerations.
- **Identification of Safety Standards and Requirements.** Before work is performed, the associated hazards are evaluated, and standards and requirements are established that, when properly implemented, provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.
- **Hazard Controls Tailored to Work Being Performed.** Administrative and engineering controls to prevent and mitigate hazards are integrated and tailored to the work and associated hazards.
- **Zero Incidents and Environmental Releases.** Bechtel is dedicated to the concept that all accidents and environmental releases are preventable. Accordingly, the UPF Project is committed to achieving and sustaining "Zero Incident" performance through continuous improvement practices.
- **Stop Work Authority.** A "stop work" is instituted when a safety issue is identified which must be resolved either by direct line of supervision or a change in a process or procedure. A task will not be performed if it cannot be performed safely. Each UPF worker has the right and the obligation to refuse to perform or stop a task that they believe is unsafe. By initiating a "stop work" the effected system will be placed in a safe state or mode of operation. Each employee has the duty to investigate the safety of the jobs they perform and to require that satisfactory controls be in place prior to beginning work. Along with the authority is the responsibility to take an active role in the resolution of safety issues.

Resolution of a "stop work" may only affect the workers and the supervisory lead and may only involve a discussion between the workers and the supervisor to clarify uncertainties

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



prior to resuming operations. If the situation requires a change in a process or procedure, the issue is elevated to management and requires the review and approval of the recommended actions of the investigation by this elevated level of management prior to resuming operations. Once the corrective actions are implemented that resolve the “stop work” issues, and management approval is given, then the system can be configured and placed back into a normal operating mode.

- **Worker Involvement.** Execution of ISM is focused where work is executed, both at the company/site level and at the facility/activity level. Line management direction and ownership, worker input and support, and effective processes must be present to ensure success of the ISM approach.

3.2 ISM CORE FUNCTIONS

The framework for the ISM approach is organized around the following five core functions:

- Define the scope of work
- Identify and analyze hazards associated with the work
- Develop and implement hazard controls
- Perform work within controls
- Provide feedback on the adequacy of controls and continuous improvement in defining and planning work.

The five core functions provide a distinct, phased approach in the continuing cycle of conducting safe work that has been incorporated in the development of procedures, processes and practices. ISM will be used throughout the project life cycle to identify opportunities for continuous improvement.

4 LEADERSHIP AND COMMITMENT

The “Zero Incident” performance philosophy is the basis for safety management on all Bechtel projects/facilities. To augment the philosophy of “Zero Incident” performance, Project Management shall utilize all options available to maximize their own and others’ ES&H performance. The NS&E ES&H Manual provides guidance to assist Project Management in the safe execution of the work to be performed. The general roles and responsibilities of key personnel follow in the subsections below.

4.1 BECHTEL TEAM ORGANIZATION

Project Management, Project Engineering, and Construction Management will provide consistency in the processes and relationships over the life of the UPF Project.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



4.2 BNI PROJECT MANAGEMENT

BNI Project Management is responsible and accountable for providing employees with a safe and healthful working environment. Each level of BNI Project Management will endeavor to ensure that safety and health receives top priority. Each level of BNI Project Management is responsible and accountable for communicating the importance of ES&H to personnel under their jurisdiction and shall hold their direct reports accountable for ensuring that the elements of the BNI UPF ES&H Plan are implemented according to project requirements. BNI Project Management will ensure that necessary resources, processes and procedures are in place to provide appropriate levels of protection to site workers, visitors, vendors, the general public and the environment. It shall be BNI Project Management's commitment that the workforce is aware of, and understands the UPF Project's ES&H objectives and programs.

Management is responsible and accountable for assisting in the planning for and executing appropriate emergency responses that provide maximum protection for employees, visitors, the public, and the environment in the event of site emergencies or natural disasters. Details of the emergency response activities can be found in the Y40-140, *Y-12 Building/Facility Emergency Program*.

4.3 ENVIRONMENTAL, SAFETY, AND HEALTH

The Project Manager has overall responsibility for ES&H. The ES&H Department establishes a qualified group of ES&H professionals under the direction of the BNI UPF ES&H Manager, to provide technical and functional oversight of activities that occur on the UPF Project.

BNI UPF ES&H Manager. The BNI UPF ES&H Manager, in conjunction with the Project Manager and Construction Manager (CM), is responsible for implementing and administering ES&H procedures applicable to the UPF Project. The BNI UPF ES&H Manager serves as the resident expert in matters relating to ES&H.

BNI UPF ES&H Lead. The BNI UPF ES&H Lead(s) serve as the cognizant experts in matters relating to Construction ES&H activities, and, like all employees, has the authority to stop work activity in the event of imminent danger to the safety and health of workers, the public, or the environment. Work activity may resume only after the joint concurrence of the CM and BNI UPF ES&H Manager. The BNI UPF ES&H Manager and Lead supports the CM and oversees the implementation and enforcement of the requirements in this BNI UPF ES&H Plan, and communicates the same to the workforce as necessary to promote the ES&H Program.

BNI/Subcontractor ES&H Representatives. ES&H representatives will provide day-to-day ES&H support to the project during daily activities. These representatives will be responsible for supporting the inclusion of ES&H in planning activities, briefings and work packages. They will routinely survey work activities to ensure ES&H hazards are properly identified and controlled.

Industrial Hygienist (IH). An Industrial Hygienist will provide industrial hygiene support to the UPF Project and will be responsible for the provision of health hazard information and health hazard mitigation techniques into planning documents and work packages. The IH representative will review engineering specifications to ensure appropriate controls are designed into processes and equipment. The IH representative will routinely monitor field activities for compliance with industrial hygiene requirements. The IH representative will consult

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



with the CNS medical team and/or Industrial Hygiene organizations on exposure data and other related topics.

Environmental and Waste Management - UPF construction waste will be managed and disposed of in accordance with PL-SH-801768-A002, *Construction Waste Management Plan for the Uranium Processing Facility*. The UPF Environmental Compliance Program requirements are identified in PL-PJ-801768-A007, *CNS UPF ES&H Plan*.

4.4 CONSTRUCTION MANAGER (CM)

The CM has overall responsibility for the implementation of BNI UPF ES&H procedures and processes and responsibility for ensuring that all construction project/facility entities actively participate and engage in the ES&H Program. The CM provides the necessary resources to effectively implement the UPF Project ES&H Program. The CM, with the rest of the management team, shall lead by example, modeling the desired safe behaviors expected from all employees performing work. In accordance with NS&E 101, *ES&H Responsibilities*, the CM will:

- Assist in the implementation of the Emergency Response Plan.
- Champion the communication of policies and expectations to the project/facility team with regard to ES&H.
- Ensure employees are informed of hazardous conditions/concerns or near miss incidents.
- Communicate to the project/facility team the emphasis on cost, schedule and quality will not override the importance of ES&H implementation.
- Participate in formal ES&H assessments and interact with all personnel and organizations to identify methods to improve safe work practices.
- Promote open communication, co-operation, and trust between Bechtel and its employees, its contractors and subcontractors, and customers/clients with focus on optimizing ES&H.
- Promote ES&H performance expectations to the entire project/facility team.
- Recognize outstanding ES&H performance in order to increase commitment and participation.
- Facilitate compliance with applicable statutory regulations and all requirements of the ES&H Plan.
- Support and encourage employee led ES&H efforts.

4.5 CONSTRUCTION SUPERVISION

Construction Supervision (i.e., Site Superintendents, Field Superintendents, Supervisors, General Foreman, Foreman, Field Engineers, etc.) is responsible to the CM for the implementation of BNI UPF ES&H procedures to ensure the safe execution of the work. This

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



includes, but is not limited to, the safe arrangement of the workplace and management of resources provided to perform the task in accordance with the BNI UPF ES&H Plan and the specific UPF ES&H procedure. Supervision shall set an excellent example to their peers, subcontractors and client personnel in terms of commitment to the ES&H program. Supervision will:

- Be thoroughly familiar with Bechtel ES&H policies and procedures and with their individual responsibilities regarding implementation and enforcement.
- Be directly involved in and accountable for implementing the ES&H requirements applicable to their areas of responsibilities.
- As a top priority, take all reasonable action to optimize the safety and health of each employee under his/her supervision.
- Ensure work tasks are conducted in an environmentally sound way in accordance with permits, plans, and the site environmental management system.
- Emphasize the protection of equipment and property in their area of responsibility.
- Promote, support, and actively participate in the “Zero Incident” performance philosophy.
- Facilitate and support Safety Task Analysis and Risk Reduction Talks (STARRT) Card/Job Hazard Analysis (JHA) briefing and communications and review the information necessary for the employee to work in a safe manner.
- Facilitate and support the People Based Safety (PBS) Program.
- Implement immediate action to correct reported or observed unacceptable ES&H conditions and or behaviors.
- Conduct safety meetings and submit copies of minutes to the BNI UPF ES&H Manager.
- Assist in the implementation of the Emergency Response Plan.
- Enforce safety related work rules and take action as required to ensure compliance.
- Evaluate the safety performance of assigned employees and report any finding(s) to the CM.
- Participate in the project planning and risk analysis and the preparation of required documentation (STARRT Cards, JHA, etc.).
- Review jobs and tasks to identify ES&H and fire hazards and assure that JHA and work permits adequately address hazard controls, Personal Protective Equipment (PPE), and job ES&H precautions.
- Attend and guide the quality of toolbox safety meetings, and Safety Leadership Workshop to instill ES&H awareness in the workforce. (Toolbox meetings should be coordinated and/ or conducted by construction supervision).

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



- Promotes awareness of and conformance with environmental requirements.
- Actively support accident/incident investigations to determine causative factors and corrective actions.
- Ensure that corrective actions are implemented in a timely basis.
- Promote and demonstrate commitment to the “Zero Incident” performance philosophy.
- Communicate ES&H policies, rules, and expectations to the employees and enforce compliance.
- Complete the new hire and supervisor ES&H orientation processes.
- Support and engage in employee lead safety efforts.
- Actively support and recognize employee “Stop Work” actions.

4.6 BNI PROJECT SUPERVISION

Supervision is responsible and accountable for the safety and health of personnel and environmental compliance in their area of responsibility. Line supervision shall be held accountable by their management for maintenance of a safe work environment and implementation of the Project requirements and procedures. Supervisors shall also hold their subordinates responsible for adhering to these requirements. The following concepts shall be utilized during the discharge of supervisory responsibilities:

- Adopt a practical safe work philosophy that employees will respect including setting a positive ES&H example like always wearing the required PPE.
- Ensure work tasks are conducted in an environmentally sound way.
- Promote and demonstrate commitment to the “Zero Incident” performance philosophy.
- Communicate ES&H policies, rules, and expectations to the employees and enforce compliance.
- Reinforce the HazCom/Right-To-Know Program by instructing their employees concerning the hazards of their jobs and communicate applicable ES&H rules, guidelines, and information.
- Actively support and engage in employee led safety initiatives.
- Provide task briefings and communications regarding safety, health, and the environment, as necessary, for employees to work without injury. Ensure that personnel working in and/or visiting the area are appropriately trained.
- Provide employees and visitors with, and ensure the use of required PPE.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Ensure these employees, or visitors, are properly instructed in the use and limitations of PPE.
- Seek the assistance of ES&H personnel when resolving questions concerning safe practices, policies, and procedures.
- Ensure that a safe working environment is maintained by allocating adequate resources and through the application of ES&H core processes.
- Support accident/incident investigations to determine causative factors and corrective actions.
- Ensure that corrective actions are implemented in a timely basis.
- Actively support and recognize employee “Stop Work” actions

4.7 EMPLOYEES

Project employees are encouraged and expected to raise environmental, safety, and health concerns and issues experienced in the workplace. Employees are responsible and accountable for assuring their own safety and health and contributing to the safety and health of others by:

- Maintaining a proactive role in the implementation of this BNI UPF ES&H Plan and other ES&H plans and procedures, implementing procedures without deviation, and embracing the “Zero Incident” performance philosophy.
- Being aware of UPF Project environmental requirements and discharging their work in an environmentally sound fashion.
- Using “Stop When Unsure” for environmental, safety, and/or health concerns.
- Using the Project chain-of-command when voicing concerns.
- Exercising their “Stop Work” authority whenever they perceive an imminent danger to themselves or other site personnel.
- Exercising their right to obtain relevant information about the hazards of a particular job task, or work environment before performing the job.
- Alerting their supervisor and/or the ES&H Department to any potential hazard in their job or work area and correcting those over which they have direct operational control.
- Adhering to safe practices and procedures specified by their supervisor and/or included in the job documentation such as permits.
- Remaining alert for job site and task related hazards.
- Reporting all work-related injuries and incidents, regardless of severity, immediately to their supervisor.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Attending and participating in ES&H-related training sessions.
- Participate when selected in employee participation programs such as People Based Safety, Zero Incident Team, and in the capacity of employee representative (if elected).
- Properly using PPE, equipment and tools.

5 EMPLOYEE COMPETENCY AND BEHAVIOR MANAGEMENT

Knowledge and motivation are essential to safe work behaviors, which reduce the occurrence of job related injuries. The Project is committed to providing the safe work environment necessary to enable workers to perform efficiently and safely.

ES&H initial training is accomplished through new employee safety orientation.

5.1 NEW EMPLOYEE ORIENTATION

All UPF Project manual, non-manual, subcontractor and lower-tier subcontractor employees, whether newly hired or rehired, will receive, at a minimum, the Basic New Employee ES&H Orientation. It is designed to:

- Provide knowledge and information necessary to identify the hazards in the work environment, and to apply the preventive measures and techniques taught to eliminate or reduce the exposure to illness and injury.
- Promote the “Zero Incident” performance philosophy by introducing all employees to this concept and how it can be achieved on the UPF Project.
- Clearly establish employee ES&H expectations.

ES&H topics covered at a minimum include:

- Management commitment.
- Life Critical requirements
- Mobile Equipment Personnel Interface (MEPI)
- General project/facility rules.
- Hazard Communication/Right-to-Know.
- Chemical Hazards and spill control.
- Emergency Response.
- Fire Prevention and Fire Extinguisher Use.
- Electrical Safety.
- Vehicle and Traffic Safety.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Work Permits, Work Control, STARRT process.
- PPE.
- Employee safety and health responsibilities.

5.2 SUPERVISOR ES&H TRAINING

Additional ES&H training is given to all first-line supervisors. The training is designed to instruct first-line supervisors in ES&H requirements to provide them with the tools necessary to identify and correct potentially hazardous conditions within their area of responsibility. Training topics may include but are not limited to:

- The Project policy, responsibilities, and plans associated with ES&H.
- Supervisor's responsibility concerning ES&H.
- Safety Leadership Workshop
- "Zero Incident" performance philosophy.
- Employee Orientation process.
- NS&E and Bechtel CP familiarization.
- Planning and Job Hazard Analysis.
- Reporting and investigation requirements for incidents/ accidents.
- Right-to-Know responsibilities.
- Resources available to the supervisor.
- Pre-Task Analysis (STARRT).

A Safety Leadership Workshop Program (SLWP) will be established. This training program is intended to develop understanding of ES&H theory and application. Project Management, Construction supervision, ES&H personnel and others, as determined by the BNI UPF ES&H Manager and the CM, shall attend this training. The Project may elect to offer this training to subcontractors.

5.3 SAFETY MEETINGS AND OJT SESSIONS

Supervisors will conduct periodic ES&H training sessions with their respective work groups. Additionally, safety meetings will be held wherein the BNI UPF ES&H Manager will deliver information vital to the Project as a whole. These training sessions will contain ES&H educational and instructional information relating to the work currently in progress.

Following the meetings, the supervisor will be required to prepare a report listing the names of those attending, the subject discussed and any questions asked. The Supervisor will be required to provide feedback on any comments and suggestions.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



5.4 SPECIALIZED TRAINING

Specialized training shall be conducted for tasks where it is required. Specialized training will include such topics as, but not limited to, respirator use, work in confined spaces, handling hazardous waste, wearing fall protection, and work with chemical regulated as a carcinogen, or any other training deemed necessary by the ES&H Department or site supervision.

5.5 EMPLOYEE HAZARD COMMUNICATION/ "RIGHT-TO-KNOW"

Every employee has the right to know the hazards and actions to mitigate the risk associated with the performance of his/her job in the workplace. All project employees will be included in the Y-12 HAZCOM (Right-To-Know) program and UPF-CP-202, *Hazard Communications Program*. The Project, including subcontractors, shall have chemicals approved and evaluated before use. Training shall be conducted with those employees who are working directly with or exposed to these chemicals.

As hazardous chemicals are procured and brought to the work site; the Project procurement and each subcontractor involved shall provide UPF ES&H with the relative Safety Data Sheets (SDS) and proof that potentially exposed workers have been trained. UPF ES&H will serve as a reference point for worker requests for information and will provide professional support.

Any chemical brought to site without an SDS shall be quarantined until this data can be acquired.

5.6 VISITOR BRIEFINGS

The Project is responsible for the safety and health of all persons at the site including visitors. Prior to entering the UPF Project, visitors will be briefed on:

- Project ES&H requirements.
- ES&H requirements specific to the area to be visited.
- Emergency response and evacuation procedures.
- Use of PPE provided.
- Visitors are responsible for following all UPF processes and procedures.

5.7 ES&H ENGAGEMENT AND COMMUNICATION

In addition to achieving a "Zero Incident" work environment, the UPF Project is committed to increasing employee awareness and understanding of the benefits of safe and healthful practices in every aspect of life. This directly benefits the project by maintaining a safer, more productive workforce. ES&H education is accomplished by providing employees with constant safety and health reminders, ES&H information applicable to work activities, and non-work activities.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



The UPF Project communicates ES&H information to project employees in a number of ways. These may include:

- ES&H Employee Handbook
- Safety meetings (and ES&H topics shared prior to starting non-safety meetings).
- ES&H metrics.
- Bulletin board messages.
- ES&H articles in newsletters.
- E-mail messages.
- ES&H recognition awards and incentives.
- Safety orientation training.
- Pre-job/STARRT briefing.

6 WORKER PROTECTION

Success of the UPF Project is dependent upon the success of key program initiatives like the “Zero Incident” Program, Environmental, Safety and Health Training Program, PBS Program, Self-Assessment Program (SAP), Subcontractor Selection and Oversight, SLWP, and the Lessons Learned Program.

6.1 ZERO INCIDENTS PROGRAM

Bechtel is dedicated to the concept that all incidents are preventable. Accordingly, the UPF Project is committed to achieving and sustaining zero incident performance through continuous improvement practices. The following are components of the “Zero Incident” Program.

6.1.1 PROGRAM GOALS AND OBJECTIVES:

Each manager shall establish proactive goals for ES&H performance in accordance with the “Zero Incident” performance philosophy. These metrics can include positive factors such as safety meeting attendance, JHAs completed, employee safety suggestions and recommendations, etc. Injury rates, number of near misses, and lost workday case rate targets shall be set at zero. Performance metrics can be posted in the work area, communicated electronically, and in other methods.

6.1.2 ZERO INCIDENT CRITERIA

The “Zero Incident” performance philosophy is essential to maintaining a “World Class” ES&H program. Effective implementation requires enthusiastic adoption of the following concepts:

- Protection of site personnel, visitors and the public is the first priority.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Activities are planned prior to execution so as to optimize the protection of the participants and the environment.
- Personnel must be involved in the ES&H program, and take responsibility and accountability for their actions.
- Unsafe practices or conditions are not tolerated.
- Managers and supervisors must be active and visible in their execution of the ES&H program.
- Site management is responsible and accountable for the effective implementation of the ES&H program; for assuring total compliance with safety and health requirements and for consistent enforcement of the requirements.
- Line management must coach employees and visitors in the ES&H philosophy.
- Employees must be trained and qualified commensurate with their responsibilities.
- Incidents must be immediately reported, investigated, and followed by timely corrective actions.

6.1.3 ZERO INCIDENT PERFORMANCE KEY ELEMENTS

The criteria defined in the previous section can be divided into three key elements that UPF shall embrace in achieving the “Zero Incident” performance philosophy:

- Management commitment and leadership.
- Employee ownership, commitment, and participation.
- Prevention-based, proactive ES&H processes.
 - **Management Commitment and Leadership:** UPF Management shall lead by example, modeling the behavior expected from employees, and subcontractors. This management commitment and leadership includes:
 - Ensuring policies and expectations are communicated and understood by the entire project team
 - Ensuring ES&H concerns and performance are given the highest priority throughout the review and completion of our work.
 - Visibly participating in ES&H audits, surveillances, and walk-downs including interaction with key personnel and organizations
 - Promoting and providing the mechanisms for open communication, cooperation, and trust between UPF, the Client, and subcontractors in the development of process improvements and concern resolution
 - Actively participating in Labor/Management committees established to improve ES&H performance

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Promoting an aggressive and proactive management approach toward subcontractor selection, plans and activities and ensuring flow down of the “Zero Incident” performance commitment and ownership in the ES&H process.
- **Employee Ownership, Commitment and Participation:** UPF recognizes the key importance of establishing personal responsibility and ownership to ensure safe work practices. BNI Project Management shall actively solicit and encourage employee participation and commitment to the ES&H process. This aim will be accomplished through:
 - Safe work performance identified as a requirement and a condition of continued employment
 - Recognition and rewards for above average performance used to strengthen commitment and participation
 - Improvement suggestions concerning activities and practices solicited on a continuing basis
 - Awareness emphasized by means of postings, incentive programs, and special programs developed to meet ES&H needs
 - Management/Labor/Subcontractor committees established to provide broad spectrum, team input into the ES&H process
 - Hazard Identification Teams (HIT) utilizing the Bechtel Safe Work Identification Process formed and trained as part of the employee ownership of the ES&H process.

Each person at UPF is assigned responsibility for his or her personal safety and health, and protection of the environment. Rules must be diligently followed and questions or concerns for safety shall be resolved before work begins. Supervisors and managers are assigned the added responsibility of ensuring that work sites are safe and that each job is planned to minimize hazards to personnel and the environment.

- **Prevention-Based, Proactive Safety Process:** ES&H shall be planned into every phase and aspect of our work. Standardized work plans, procedures, activity hazard analysis, and work permits will be used to implement the provisions of this Plan and to ensure that applicable ES&H requirements are translated into work practices.

The UPF Project will establish short and long term goals and objectives including measurement factors to document progress and to identify areas where action is required. These ES&H requirements will be incorporated into all subcontracts to ensure advanced planning and commercial considerations for compliance are undertaken by subcontractors.

6.1.4 ZERO INCIDENT TEAM

The Zero Incident Team works to identify and abate hazards, as well as offer recommendations for improvement based on project data and incidents. The Zero Incident Team should be

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



composed of a mix of senior management, mid-level managers, first line supervisors, and craft representatives. Zero Incident Team members will observe work areas, equipment, employee practices and specific tasks to identify hazardous conditions (could adversely affect employees, visitors, the public, or the environment). Once a hazard is identified the Zero Incident Team will take action to correct such condition. Significant issues will be discussed by the team and/ or referred to Project Management who has the responsibility to evaluate the condition and initiate the necessary action to abate the hazard. Hazards and their corrective actions that have been identified by the Zero Incident Team will be followed to closure. Feedback on findings and actions will be relayed to employees to enhance awareness.

6.2 SAFETY AND HEALTH TRAINING PROGRAM

Training of site workers, vendors and visitors are key to the prevention of incidents. Each supervisor shall assure that each subordinate has the training specified by the ES&H Department and commensurate with his/her job responsibilities. Training will be conducted prior to entry into the work area and/or execution of task responsibilities.

6.3 MOBILE EQUIPMENT / PERSONNEL INTERFACE (MEPI)

MEPI is a process improvement strategy dedicated to improve the interfaces between equipment and people to eliminate the accidents and incidents that occur between them. It is designed to address people and behavior, technology, processes and procedures, and consequences in developing these improvements.

6.4 SAFETY TASK ANALYSIS RISK REDUCTION TALK (STARRT)

Safety Task Analysis Risk Reduction Talk (STARRT) is a process that utilizes employees to identify and resolve ES&H hazards associated with a task, prior to the task being performed. Refer to Section 8.2 and Y17-95-64-823, *UPF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis (STARRT/JHA) Process* for a description of this process.

6.5 PEOPLE-BASED SAFETY (PBS)

The PBS Program shall be incorporated for UPF activities. It utilizes personal contact to communicate with coworkers about safety and health in a manner that promotes positive ES&H awareness. The objective of the program is to teach safety and health observation skills so supervisors and employees can observe coworkers performing normal work activities to reinforce safe work practices and to correct unsafe acts and conditions.

At UPF, PBS shall be effectively implemented and have management's commitment. Each employee shall be involved. Key elements of this program shall include:

- Everyone has a role.
- Supervisors receive formal training and cascade this training to their subordinates.
- Safety and health is instilled as a value and is a primary priority.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Safety and health is everyone's responsibility.
- Implementation is effected as a unifying and not a divisive tool.
- Needs are customized to UPF.

6.6 SELF-ASSESSMENT PROGRAM

Self-assessment is a key factor in achieving a "Zero Incident" work environment. The self-assessment process is intended to include participation by both management and workers. The formalized self-assessment process established at UPF, based upon the principle of continuous improvement, is included in the Contractor Assurance System (CAS) as defined in PL-QA-801768-A001, *BNI UPF Quality Assurance Plan*.

6.6.1 SUPERVISORS AND MANAGERS

Guidance for line management self-assessment provides structure and additional assurance that the work place remains safe and reinforces the desired safety culture. Supervisors and managers shall conduct periodic job site walkthroughs with the specific purpose of identifying safety and health hazards. An appropriate checklist, developed by supervision with assistance from the ES&H Department to ensure pertinence to the activity, will be used and observations documented (STARRT, pre-job briefing). Good practices as well as deficiencies will be noted. Most deficiencies will be corrected immediately. If deficiencies cannot be corrected immediately, they will be tracked to closure. The results of these walkthroughs may be discussed during Toolbox Safety Meetings.

6.6.2 SELF-ASSESSMENT BY PROJECT PERSONNEL

Self-assessment begins with the individual worker implementing his/her responsibility to remain constantly alert for job site and task related hazards. Prior to and during work activities, each worker will assess his/her workstation and work task for specific hazards. Workers will consult with their immediate supervisor on hazards that have not been addressed. Line managers and supervisors will provide guidance to the worker on how to appropriately conduct SAP evaluations of their work task and workstation.

6.6.3 LINE MANAGEMENT SELF-ASSESSMENT PROGRAM

The UPF Zero Incident Team and the voluntary programs for employee hazard identification comprise the line management self-assessment program. Safety, health, and environmental issues that are identified during supervisor and management walkthroughs and are not corrected immediately are reviewed at safety committee meetings.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



Results from self-assessments will be trended, reviewed by management, and used to develop improvement actions.

6.7 LESSONS LEARNED PROGRAM

Regular communications can provide critical information on issues and problems. Sharing lessons learned about programs, processes, equipment and issues such as injuries provide basic information that may result in avoidance of a repeat of a mishap. The Lessons Learned Program will be used at UPF to allow management to make informed decisions based on the information from other Department of Energy (DOE) sites and commercial projects.

Y15-95-331, *UPF Project Lessons Learned Program*, provides UPF-specific Lessons Learned Program requirements. The Lessons Learned Program collects information from the project to share with other facilities.

Types of lessons learned to be collected will include:

- Findings from incident investigations.
- Findings from self-assessments, independent evaluations or audits.
- Successes in a program, process or equipment.
- Definition and resolution of a particularly difficult ES&H issue.

7 ORGANIZATION AND RESOURCES

The Project's website is regularly updated to reflect the current organization. For clarity regarding the composition and prime contractor-subcontractor demarcation in the ES&H Organization, refer to PL-PM-801768-A033, *CNS Project Management Plan for the Uranium Processing Facility Project*.

7.1 INTERFACES

BNI UPF Project interfaces primarily with CNS and with other organizations at the direction of UPF Project Management.

7.1.2 OCCUPATIONAL MEDICINE

UPF Project will follow Y78-001, *Occupational Medicine Program*, or subcontractor equivalent.

7.1.3 DRUG AND ALCOHOL POLICY

UPF Project will follow BSII-00011, *BNI Workplace Substance Abuse Plan*. The BNI Workplace Substance Abuse Plan does not apply to subcontractors; however, subcontractors shall comply with Title 10 Code of Federal Regulations (CFR), Part 707 as a condition of the subcontract and submit a substance abuse plan to UPF for approval.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



7.1.4 RADIOLOGICAL CONTROL PROGRAM

UPF Project will follow Y75-100, Y-12 Site Radiological Control Program.

7.1.5 INDUSTRIAL HYGIENE

Industrial Hygiene (IH) is the practice of protecting the worker's health through the control of the work environment and is primarily implemented through Y73-200PD, *Industrial Hygiene Program*. IH is accomplished through the anticipation, recognition, evaluation, and control of workplace stressors that can result in a health hazard to the employee. UPF ES&H will ensure that IH requirements are met during the phases of Project work (i.e., hazard evaluations, JHA requirements, sampling, ergonomics, and monitoring of construction site potential health hazards). The focus areas may include confined space, heat and cold stress, hearing conservation, respiratory protection, blood borne pathogens, silica, etc.

8 MANAGING HAZARDS AND RISK

8.1 HAZARD IDENTIFICATION

Hazard identification shall be initiated at the planning phase of each task and element of construction, and pre-operations. Employees are responsible for the identification of hazards associated with their work. Hazard identification will continue through the final execution of the work.

8.1.2 HAZARD IDENTIFICATION AND REPORTING

Project personnel are required to immediately report hazards, perceived unsafe conditions, near miss events/conditions, and poor environmental or at-risk practices. The early identification and remediation of unsafe situations is designed to minimize the potential for accident or injury. The following venues are available for hazard / ES&H issue reporting:

Zero Incident Team Members, Construction Supervisors /Field Engineers, and ES&H Representatives are anticipated to be the first individuals notified of an ES&H concern or hazard because of their proximity to the majority of the workforce.

BNI UPF ES&H Department: The BNI UPF ES&H Department has primary responsibility to evaluate the risk associated with a given hazard, elevate the issue for management attention and ensure the issue is tracked in an issues management system to closure. Issues or concerns identified by employees can be reported directly to the BNI UPF ES&H Manager.

Management: ES&H concerns can be reported to any member of the Project Management team. If an employee has not received a satisfactory response to a reported concern, he/she can report the concern to any member of management without fear of reprisal.

Project Employee Feedback: Those persons desiring to anonymously report an ES&H concern or hazard can do so by submitting the suggestion or concern at any of the drop box locations located throughout the UPF facilities. Additionally, employees may e-mail UPF ES&H at UPFESH@y12.doe.gov to provide feedback, ask questions, and raise ES&H concerns.

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



8.1.3 HAZARD ANALYSIS IN DESIGN, JOB HAZARD ANALYSIS (JHA)

Hazard Analysis will be performed during design reviews to assure a design free from hazards. Hazards and the actions taken to mitigate the risks will be tracked to closure. These processes are outlined in the engineering procedures.

8.1.4 HAZARD PREVENTION AND CONTROL

Hazard prevention and control refers to the elimination of hazards through design or work control planning. The review and improvement of work task flow or the use of less toxic, environmentally friendly materials are examples of hazard reduction techniques. The ES&H Department along with the responsible management and supervision will review project tasks as they are scheduled. Work control plans will be developed and reviewed by supervision and the ES&H Department for work process improvements and hazard mitigation. Recommendations will be offered early in the planning process for cost effective mitigation of potential hazards. Prior to work, preparatory meetings involving the ES&H Department will be held wherein the JHA will be developed and methods of mitigation incorporated into the appropriate work process.

Where hazards cannot be eliminated, hazard control measures will be instituted. These hazard control measures, in their preferred order of application are:

- Elimination of the hazard or substitution of lower hazard practices, materials, equipment.
- Engineered controls and redesign.
- Administrative controls (i.e. use of permits, authorizations, special procedure).
- PPE (as a last resort).

8.2 PRE TASK ANALYSIS (STARRT)

A pre-task analysis process referred to as Safety Task Analysis Risk Reduction Talk (STARRT) will be utilized to evaluate and control hazards at the work face. This process utilizes employees to identify and resolve ES&H hazards associated with a task, prior to the task being performed. During UPF construction activities, for example, subcontractor employees will be trained regarding their responsibilities under the STARRT program. Each day prior to starting the job, Supervision will lead the crew in a STARRT discussion of the job to be performed. If the crew is to start another job before the shift has ended, a STARRT discussion will precede the task. A STARRT card will be completed for each job the crew is to perform before the job begins. Each member of the crew will sign the STARRT card acknowledging the task, the hazards and the protective actions taken to minimize risk. The STARRT program will be modified for use during Pre-Operations, but will maintain the essential elements outlined above.

8.3 RISK ASSESSMENT

The UPF Project Risk Management program identifies, assesses and manages technical and programmatic project risks through the life cycle of the UPF Project to minimize risk, minimize

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



negative impact, and maximize positive outcomes, in accordance with RA-PJ-801768-A001, *UPF Risk Management Plan*.

9 ES&H PLANNING AND DOCUMENTATION

ES&H will be planned into each portion of the work. This may include use of JHA, Work Method Statements, planning meetings, etc.

9.1 WORK PACKAGES

Work will be performed with an approved work package. Each work package will contain work documents necessary to perform the job safely. The types of work documents and the level of detail provided will be commensurate with the complexities of the task and the potential hazards involved. Work packages can include installation drawings, procedures, permit/regulatory requirements, STARRT cards, or JHAs. The specific requirements for preparing work packages and related work documents will be formally controlled by site-specific procedures.

9.2 PROCEDURES

Detailed procedures incorporating ES&H considerations are necessary for many activities that involve possible exposure to occupational hazards. The NS&E CPs will be used as the foundation for the UPF procedures. New associated procedures will be developed by the performing organization when such a procedure is necessary to minimize specific hazards that might be encountered.

9.3 REQUEST FOR WAIVER OR DEVIATION

Request for deviations from ES&H plans, ES&H standards, or ES&H implementing procedures shall be submitted in writing to the BNI UPF ES&H Manager. The BNI UPF ES&H Manager shall coordinate with BNI, the appropriate Project management or contractor representatives. Any incident that occurs during work where a waiver or deviation has been granted will require a formal investigation of the incident. Waivers shall only be granted in extreme circumstances, and with the concurrence of the Construction Manager, Project Management and NS&E Manager of ES&H.

10 PROCUREMENT CONTROL

Anyone who originates a purchase requisition or specification for equipment or services has the responsibility to consider the potential risks the piece of equipment, chemical or material to be obtained may cause. The ES&H Department will review procurements involving chemicals, ES&H related services (e.g., confined space entry, excavation work), and equipment (e.g., guards, noise, UIL compliance) to evaluate ES&H concerns. Future procurements of same or similar specification items or services may not be subject to repeated review and approval but will require notification to the ES&H Department.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



11 WORKING WITH SUBCONTRACTORS

The ES&H Department will periodically perform observations of subcontractors for adherence to requirements. These observations can be informal, focused-based, or formal in nature and may include, but not limited to, review of the following:

- Compressed gas cylinders use and storage.
- Fall protection.
- Scaffolding.
- PPE.
- Housekeeping.
- Aerial lift use.
- Fire protection and prevention.
- Barricading, set-up and postings.
- Welding and cutting.
- Waste and chemical handling

11.1 SUBCONTRACTOR SELECTION AND OVERSIGHT

Anyone who originates a purchase requisition or specification for material, equipment or services has the responsibility to consider the potential risks associated with the equipment, chemical, material, or service to be obtained. ES&H participates in ES&H proforma language development and approval, pre-procurement planning, pre-bid meetings, and award kick-off meetings, etc., as necessary, to evaluate, identify and communicate ES&H concerns. Future procurements of same or similar specification items or services may not be subject to repeated review and approval but will require notification to the ES&H Department.

11.2 SUBCONTRACTOR COMPANY REQUIREMENTS

Subcontractors are required to follow this BNI UPF ES&H Plan and ES&H procedures, processes, laws, regulations, codes, standards, directives and subcontract requirements applicable to the scope of work identified in the subcontract.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



12 ACCIDENT / INCIDENT INVESTIGATION AND REPORTING

Management is committed to investigating and reporting all injuries, major environmental and near miss incidents. This effort is intended to identify causative factors and provide guidance for corrective actions. Cases will be investigated by the supervisor of the injured employee and reviewed and signed by the applicable manager. The report shall include detail of the injury or incident, causation, remedial actions taken and recommendations to prevent reoccurrence. The ES&H Department shall provide technical support and review of the incident investigation. A causal analysis shall be conducted on all serious incidents (injury or environmental). Causal analysis shall also be conducted for minor incidents or injury free incidents that demonstrate a high probability that they could have resulted in a serious injury or environmental event. Cause analysis may be conducted on other incidents as defined in Y15-312, *Issues Management Process*. Human Performance improvement principals will be used as a part of all investigations.

12.1 INJURY/ACCIDENT REPORTING

Injuries and illnesses that occur on the job shall be reported immediately by the affected person to the responsible supervisor. Reports shall be logged in an issues management system and the Bechtel Incident Reporting and Information System (IRIS), and a causal analysis initiated when applicable. An Accident Summary Report, completed by the ES&H Department, shall be included in the project weekly/monthly progress report.

Subcontractor Management with the participation of the Project ES&H Department and the responsible UPF Project Supervisor will conduct the investigation and causal analysis of serious accidents/incidents. Subcontractors are responsible for performing accident/incident investigation for their scope of work. Subcontractors shall participate in accident/incident investigation as required by the subcontract.

12.2 CHAIN-OF-NOTIFICATION

12.2.1 INVOLVED PARTY

The injured party, individual detecting a spill, release or anomaly, or person involved in or observing an accident, incident, or near miss shall immediately report the occurrence to his/her supervisor, or a member of UPF Project Management.

12.2.2 SUBCONTRACTOR SUPERVISION

If the incident is a first-aid injury, minor environmental spill, minor property damage incident, or near miss, the subcontractor supervisor shall personally and immediately report the incident/accident to the ES&H department and the Subcontract Technical Representative (STR) and initiate the required investigation.

In the event of a serious incident the supervisor shall:

- Notify Plant Shift Superintendent (PSS) personnel.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



- Personal Injury - Assure provision of medical attention for injured personnel.
- Fire/Explosion or Rescue - Assure that fire or emergency response personnel are notified (see ERP for contact information).
- Notify the BNI UPF ES&H Manager or his designee personally, by telephone.
- Preserve the incident scene.
- Obtain the names of the parties involved and witnesses.
- Notify supervisor's respective manager.

12.2.3 BNI UPF ES&H MANAGER OR DESIGNEE

The BNI UPF ES&H Manager shall make notifications as per the Project reporting process (see Y14-192) for incidents other than a near miss, first-aid injury, or minor property damage.

12.3 INCIDENT RECORDKEEPING

Injuries will be recorded on an injury log (OSHA 300 or equal) if the injury entails medical treatment beyond first-aid. First-aid injuries will be recorded on a first-aid log. Near-miss (precursor) incidents, property damage, fires, etc. will be recorded in an issues management system.

12.4 ES&H COMPLIANCE ENFORCEMENT

Violations of the ES&H requirements shall be cause for disciplinary actions. Deliberate violation of ES&H rules and requirements may subject the violator to disciplinary action up to and including dismissal or removal from site.

13 EMERGENCY RESPONSE

The ability of the project workforce and visitors to promptly take appropriate actions in the event of an emergency is essential to their safety, health and well-being. The responses to emergencies will vary with the type of emergency, activities in progress, and site status. All emergency response actions must be thoroughly coordinated with the Project and local agencies.

Y40-140, *Y-12 Building/Facility Emergency Program*, provides the requirements and guidance for personnel actions during an emergency. This Plan and its implementing procedures apply to personnel and visitors at the UPF Project.

Refer to PL-SH-801768-A009, *Uranium Processing Facility Project Construction Environmental Control Plan* and contact the PSS at 865-574-7172 for spill response guidance.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



14 STOP WORK AUTHORITY

14.1 EMPLOYEES

All project workers have the right to refuse to perform a task that they believe is unsafe. Each employee has the duty to investigate the ES&H aspects of the jobs they perform and to require that satisfactory controls are in place prior to beginning work. Along with this authority is the responsibility to take an active role in the resolution of ES&H issues.

Each employee is responsible for adherence to safe work procedures and to perform work in a safe manner. The right to refuse unsafe work or to stop work that is perceived as unsafe is guaranteed to each worker. Exercise of this authority shall not result in any form of reprisal or negative personnel action by management.

14.2 STOP WORK AUTHORITY AND SELECTED EMPLOYEES AUTHORITY

UPF personnel have the authority to stop an activity which, if allowed to continue, could reasonably be expected to result in death, serious physical harm to personnel, serious environmental release, major system damage, or endanger the installations ability to accomplish its mission.

While each project employee has the authority and responsibility to stop work if imminent danger is perceived, authority for stopping operations for lesser reasons is provided for selected employees. This process does not eliminate an employee's authority and responsibility to raise issues to the personnel below:

- ES&H Management and Engineers.
- Any Supervisor.
- Field Engineers/ inspectors.
- Subcontractor Supervisors or Management of the task.
- Government counterparts observing the function.

Verbal Notification. The Project Manager shall be immediately notified and briefed on the situation whenever a stop work action is taken by any of the personnel authorized above.

Written Notification. A written report of the incident shall be furnished to the Project Manager by the personnel authorized above initiating the stop work action upon completion of safe and orderly stoppage of work. Supporting documentation (where applicable) shall be attached to the report. Reports shall be compiled within 24 hours of the incident (or close of next business day for weekends or holidays).

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



15 OVERSIGHT AND SURVEILLANCES

15.1 PROJECT MANAGEMENT & FUNCTIONAL OVERSIGHT

There are four levels of oversight for project ES&H systems associated with the UPF Project:

Client level. ES&H performance and execution of the UPF Project will be assessed on a regular basis by the client.

Corporate level. Project Management, along with Quality Assurance and Project Controls, will review ES&H performance in the context of the overall project status and resource requirements.

Functional level. NS&E ES&H will review BNI UPF ES&H performance

Project level. ES&H Department will conduct a routine self-evaluation of the effectiveness of the ES&H program. Any deficiencies, weakness or opportunities for improvement and the proposed remedies will be placed in an issues management system. Items entered into an issues management system will be regularly reported to management and tracked to closure, and will contain improvement opportunities in the areas of Quality Assurance, Environmental Compliance, and Safety and Health that are identified during audits and/ or inspections.

15.2 WORK OVERSIGHT AND SURVEILLANCE

UPF Project Management and Supervision shall conduct routine and impromptu surveillances of project activities to ensure that ES&H is properly implemented. Unsafe practices or conditions will be reported to the responsible supervisor at the time of inspection. Whenever practical, violations of the ES&H program requirements and standards or regulations shall be corrected immediately. ES&H personnel will use deficiency reports where trends or significant violations occur and will send a formal copy of the report to the responsible manager identifying the deficiencies and recommended corrective actions. Those items that cannot be corrected immediately will be placed in an issues management system and tracked to closure.

UPF Management/Supervision overview and surveillance of project activities, as a minimum, shall include the following site activities:

- Spot checks of work activities, housekeeping practices, conditions of equipment and work areas, and compliance with established UPF ES&H requirements.
- Formal surveillance as requested by the BNI UPF ES&H Manager or other line or functional manager.

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



16 MATRIX OF APPLICABLE CODES, REGULATIONS, STANDARDS, AND DIRECTIVES

The table below lists the codes, regulations, standards, and directives applicable to the UPF Project.

Governing S&H Regulations	Governing Environmental Regulations	Client/Industry ES&H Standards	Federal Acquisition Regulations (FAR)	DOE Orders
10 CFR 830	10 CFR	DOE-STD-1090-2011	52.223-2	DOE O 420.1B
10 CFR 835	TDEC 400 Series	Y18-107 Lockout/Tagout	52.223-7	DOE O 435.1
10 CFR 850	40 CFR (whole or in part) Subchapter C - Air Programs, Subchapter D - Water Programs, Subchapter E – Pesticide Programs, Subchapter I – Solid Wastes, Subchapter J – Superfund, Emergency Planning, and Community Right-To-Know Programs, Subchapter R – Toxic Substances Control Act, Subchapter U – Air Pollution Controls	Hazardous Material Identification and Material Safety Data (Company – APR 2010)	52.223-15	DOE F 5484.3
10 CFR 851		Hazardous Material Reporting (APR 2010)	52.223-17	
29 CFR 1904		Appropriate Footwear Policy (UCN-22374) (Company)	52.223-18	
29 CFR 1910		Y-12 Motor Vehicle and Pedestrian Safety (UCN-22527) (Company)	970.5223-1	
29 CFR 1926		Smoking Policy (UCN-22375) (Company)	952.223-75	

17 ZERO TOLERANCE DISCIPLINARY ACTIONS

The Life Critical Requirements (Appendix B) apply to all Bechtel UPF employees and subcontractor personnel who perform work on the UPF Project. Compliance with Life Critical Requirements is a condition of employment on the UPF Project. Any deviation or failure to comply with Life Critical Requirements has the potential to cause serious injury or death to the individual or fellow workers. Serious consequences for non-compliance by Bechtel UPF employees and subcontractor personnel will be enforced.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



Appendix A – Subcontractor Requirements Matrix

NOTE: The Subcontractor Requirements Matrix is provided as a compilation of specific subcontractor requirements identified throughout the BNI UPF ES&H Plan. The list is NOT all-inclusive. Subcontractor must comply with all applicable requirements contained in the BNI UPF ES&H Plan, BNI UPF ES&H procedures, federal, state and local requirements, and requirements set forth in the subcontract specific to the work being performed. Subcontractors shall contact the STR for imposed requirements.

Section Number	Subject Matter	General Requirement
5.2	STARRT program	Subcontractor employees will be trained regarding their responsibilities under the STARRT program: <ul style="list-style-type: none"> • Crew will be lead in a STARRT discussion of the job prior to performing task • Each member of the crew will sign the STARRT card, acknowledging the task, the hazards and protective actions
7.2	Training	Newly and re-hired subcontractors shall receive the Basic New Employee ES&H Orientation. Supervisor ES&H Training may be offered.
9	Observations	Subcontractors will be periodically observed by Contractor for adherence to requirements to include, but not limited to: Compressed gas cylinders Life Critical Requirements PPE Housekeeping
10.3.3	Stop Work Authority	All personnel have the authority to stop an activity which could reasonably be expected to result in death, serious physical harm to personnel, serious environmental release, etc. Selected employees (subcontractor supervisors or management of the task) have the authority to stop operations for lesser reasons. Notification of Stop Work: Verbal notification <ul style="list-style-type: none"> • Subcontractor shall verbally notify the superintendent and • Subcontractor shall brief the superintendent on the situation whenever a stop work action is taken Written Notification: <ul style="list-style-type: none"> • Subcontractor shall respond to written notifications of serious subcontractor non-compliance to project ES&H requirements within one (1) working day, outlining remedial action to be taken to correct non-compliances. Project management may cease subcontractor work until an approved plan has been implemented.
10.5	Injury/Accident Investigation	Subcontractor management will participate in conducting the investigation and Root Case Analysis of serious accidents/incidents.
10.6.3	Chain-of-Notification	Subcontractor supervisor shall personally and immediately report first-aid injuries, minor environmental spill or minor property damage incidents to the ES&H departments and will initiate the required investigation. Subcontractor supervisor shall: <ul style="list-style-type: none"> • Notify PSS personnel and the BNI UPF ES&H Manager in the event of a serious incident • Assure provisions of medical attention for injured personnel • Preserve the incident scene • Obtain the names of the parties involved and witnesses • Notify Supervisor’s manager
11.2	Self-Assessment	Subcontractor workers shall participate in Contractor’s Self-Assessment Program, as requested.
12	Applicable Codes, Regulations, Standards, and Directives	Subcontractor shall abide by all applicable codes, regulations, standards, and directives.
Appendix B	Life Critical Requirements	Subcontractor is required to adhere to all Life Critical Requirements outlined in the BNI UPF ES&H Plan. Any deviation or failure to comply with Life Critical Requirements may, at the discretion of Bechtel Management, may result in disciplinary actions up to and including permanent removal from the work-site.

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



Appendix B – Life Critical Requirements

#	ES&H Requirement	Rule
1	Drug and Alcohol Policy	<p><u>Compliance with Drug and Alcohol Policy.</u></p> <ul style="list-style-type: none"> • Always report to work fit for duty. • Never use, possess, distribute, sell, or be under the influence of illegal drugs and/or abuse controlled substances (including prescription drugs not authorized by a physician). • Never consume or be under the influence of alcohol. • Employees using prescription or legal non-prescription drug that might in any way impair their ability to perform assigned job duties shall immediately notify human resources/labor relations/industrial relations before using the drug at work. • Medications that can be detected under testing protocols must have a prescription indicating employee name and quantity.
2	Fall Protection and Prevention	<p><u>Never work at unprotected heights or near openings without the use of required fall protection.</u></p> <ul style="list-style-type: none"> • Never expose yourself, direct/allow others to be exposed to potential falls from unprotected heights of 6 feet (1.83 meters) or greater without the use of positive fall protection or fall arrest equipment. <i>(Exception: Use of personal fall protection is not required when climbing fixed ladders less than 24 feet (7.3 meters) in length or on portable ladders).</i> • Always secure at an approved anchorage point. • Never work around exposed edges and floor openings that are not securely covered and/or hard barricaded. Immediately report all unguarded open holes.
3	Confined Space Entry	<p><u>Never enter a permit-required confined space unless trained, authorized and an entry permit has been completed.</u></p> <ul style="list-style-type: none"> • Never enter a permit-required confined space unless atmospheric testing has been performed. • Never enter a permit-required confined space without an approved permit. • Never enter a permit-required confined space without an attendant at the entrance and an effective way to communicate.
4	LOTO (Lockout/Tagout)	<p><u>Never commence work until all energy sources have been identified and isolated in accordance with procedures.</u></p> <ul style="list-style-type: none"> • Never remove and/or tamper with any tag and/or lock installed for the safety of personnel. • Prior to work lock and tag machinery, equipment, components, and/or systems that may contain any type of stored energy. • All residual/stored energy must be eliminated prior to any work activities.
5	Rigging, Lifting Operations and Suspended Personnel Platforms	<p><u>Never conduct lifting operations unless authorized and verified as competent. Never work under a suspended load.</u></p> <ul style="list-style-type: none"> • Operate all equipment in accordance with the manufacturer's instructions/guidelines and/or the Bechtel Crane and Rigging Operations Standard Work Process Procedures. • Never hoist loads over people. • Never work within a load shadow, i.e., anywhere the load can fall. • Never cross a barricade that controls an area with a suspended load unless you are authorized, i.e., part of the lift team. • Never operate cranes, lifting equipment, suspended personnel platforms, and/or rigging devices unless authorized and verified as competent.

BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1



#	ES&H Requirement	Rule
6	Defeating Safety Devices	<p><u>Never disable, bypass, modify or remove any safety protection device without authorization.</u></p> <ul style="list-style-type: none"> • This includes but is not limited to: <ul style="list-style-type: none"> ○ Disconnecting load indicators ○ Removing rotating equipment guards ○ Fixing triggers/power switches in the “on” position ○ Removing equipment/tool handles ○ Hard wiring electrical wires into outlets ○ Use of damaged equipment and/or tools that have been tagged out of service ○ Failure to use outrigger pads
7	Barricades (Hard and Soft)	<p><u>Never disregard or bypass signage and barricading.</u></p> <ul style="list-style-type: none"> • Only authorized personnel may work within “Danger” designated barricades. • Always isolate imminent danger areas with proper barricades and information tags.
8	Elevated Work Platforms (Aerial Lifts)	<p><u>Never operate any mechanical elevated work platform without documented training.</u></p> <ul style="list-style-type: none"> • Never stand on the toe-board, mid-rail, or top-rail of the basket. • Never enter a basket without being tied off to the manufacturer’s designated anchor point, even during ground positioning, without documented approval for the deviation. • Never exit the basket at height unless prior, documented approval for the deviation has been obtained from project ES&H personnel.
9	Scaffolding	<p><u>Never access any scaffold without documented evidence of inspection by a designated competent person before each work shift.</u></p> <ul style="list-style-type: none"> • Obey the scaffold rules at all times. • Never use any scaffold without a current date tag (daily inspection). Scaffold rules include strict adherence to the color-coded tagging system of red, yellow and green tags as appropriate (some projects may not use yellow). • Never access a red-tagged scaffold. Only authorized scaffold builders are permitted and they must wear required fall protection. • Never access a yellow-tagged scaffold without 100% tie off or fall protection. • Scaffolds not tagged are assumed to be red-tagged. • Never alter or modify a scaffold unless you are competent, qualified and authorized to do so.
10	Excavation & Trenching	<p><u>Never access an excavation deeper than 4 feet (1.2 meters) that has not been sloped, benched or shored and an excavation permit completed.</u></p> <ul style="list-style-type: none"> • Never enter an excavation or trench, or direct others to enter without a prior, documented, formal assessment by a competent person. • Never perform excavations without a competent person present. • Adequate ingress/egress such as stairs and ladders are required within 25 feet (7.6 meters) of each worker in all trenches greater than 4 feet (1.2 meters) in depth.

**BECHTEL NATIONAL, INC.
URANIUM PROCESS FACILITY
ENVIRONMENTAL, SAFETY, AND HEALTH PLAN
PL-SH-801768-A007 Rev 1**



Appendix C – Acronyms

BNI	Bechtel National Inc.
CAS	Contractor Assurance System
CFR	Code of Federal Regulation
CM	Construction Manager
CNS	Consolidated Nuclear Security
CP	Core Process
DOE	Department of Energy
EPC	Engineering, Procurement, Construction
ES&H	Environmental, Safety, and Health
HIT	Hazard Identification Team
IH	Industrial Hygiene
IRIS	Incident Reporting and Information System
ISM	Integrated Safety Management
JHA	Job Hazard Analysis
MEPI	Mobile Equipment/Personnel Interface
NS&E	Nuclear, Security, and Environmental
PBS	People Based Safety
PPE	Personal Protective Equipment
SAP	Self-Assessment Program
SDS	Safety Data Sheet
SLWP	Safety Leadership Workshop Program
STARRT	Safety Task Analysis and Risk Reduction
UPF	Uranium Processing Facility