

Worker Safety and Health Program

Advanced Mixed Waste Treatment Project

Approved:

(Signature on file. See DCR-5732.)

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AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

TABLE OF CONTENTS

1.0 INTRODUCTION1

2.0 PURPOSE.....1

 2.1 Subcontractors.....2

3.0 COMPLIANCE.....3

4.0 IMPLEMENTATION.....3

5.0 10 CFR 851 SAFETY REVIEW5

 5.1 Roles and Responsibilities5

6.0 MANAGEMENT RESPONSIBILITIES AND WORKER RIGHTS AND RESPONSIBILITIES (CFR 851.20)7

 6.1 Functional Responsibilities.....7

 6.2 Industrial Safety/Industrial Hygiene Organization Roles and Responsibilities.....10

 6.3 Informing Workers of Rights.....11

 6.4 Access to Information.....12

 6.5 Safety Communication.....12

 6.6 Reporting and Responding to Events and Hazards.....13

 6.7 Stop Work Authority.....14

 6.8 Budget and Procurement.....14

7.0 HAZARD IDENTIFICATION AND ASSESSMENT (10 CFR 851.21)14

8.0 HAZARD PREVENTION AND ABATEMENT (10 CFR 851.22)16

9.0 SAFETY AND HEALTH STANDARDS (10 CFR 831.23).....17

 9.1 Chronic Beryllium Disease Prevention Program (10 CFR 850).....17

 9.2 Recording and Reporting Occupational Injuries and Illnesses (29 CFR 1904.4 – 11; 1904.29 – 33; 1904.44 and 1904.46)17

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3	Occupational Safety and Health Standards (29 CFR 1910).....	18
9.4	Safety and Health Regulations for Construction (29 CFR 1926)	26
9.5	Threshold Limit Values for Chemical Substances, Physical Agents, and Biological Exposure Indices – American Conference of Governmental Industrial Hygienists	27
9.6	American National Standard for Respiratory Protection (ANSI Z88.2).....	27
9.7	Safety in Welding, Cutting, and Allied Processes (ANSI Z49.1).....	28
9.8	National Electrical Code (NFPA 70 and 70E).....	28
9.9	Lasers	29
10.0	FUNCTIONAL AREAS (10 CFR 851.24 Appendix A).....	29
10.1	Construction Safety.....	29
10.2	Fire Protection.....	29
10.3	Explosives Safety	31
10.4	Pressure Safety	31
10.5	Firearms Safety	31
10.6	Industrial Hygiene.....	31
10.7	Biological Safety.....	31
10.8	Occupational Medicine	32
10.9	Motor Vehicle Safety	34
10.10	Electrical Safety	34
11.0	TRAINING AND INFORMATION (10 CFR 851.25)	35
12.0	RECORDKEEPING AND REPORTING (10 CFR 851.26).....	37
13.0	VARIANCE PROCESS (10 CFR 851.31)	38
14.0	TERMS AND DEFINITIONS.....	38

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

15.0	REFERENCES	39
16.0	APPENDICES	40
	Appendix A 10 CFR 851 Safety Review Process.....	A1

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

1.0 INTRODUCTION

Bechtel BWXT Idaho, LLC (BBWI) management and personnel are committed to maintaining a safe work environment through the incorporation of requirements into management procedures (MPs) and work instructions (INSTs); by conducting *assessments* (see def.) to determine compliance with those requirements and effectiveness of corrective actions; promoting employee involvement throughout the work planning and execution process; encouraging worker and management openness and communication in resolving safety issues and concerns, as well as performing workplace area monitoring, reporting and recordkeeping.

The basic structure of the Integrated Safety Management System (ISMS) (Core Requirements and Guiding Principles) is the overarching system BBWI uses to manage the work activities at Advanced Mixed Waste Treatment Project (AMWTP). BBWI integrates safety into management and work practices at all levels so that activities conducted at AMWTP are accomplished while protecting the worker, the public, and the environment.

In short, we will never compromise safety for production. If work cannot be performed safely, we will STOP WORK, and not proceed until consensus is reached on a safe path forward.

This Program Description explains the implementation of the BBWI Worker Safety and Health program for the AMWTP through Procedures, Instructions, the Management and Employee Responsibilities, and Programmatic Element compliance.

2.0 PURPOSE

This Program Description establishes the requirements for the Worker Safety and Health Program (WSHP) and identifies the elements, methods, and processes by which AMWTP implements federal and state laws, regulations, *standards* (see def.), and Department of Energy (DOE) *directives* (see def.) applicable to safety and health (S&H) and required by the AMWTP prime contract (AC07-99ID-13727). It complies with 10 CFR 851, Worker Safety and Health Program, that codifies DOE's WSHP requirements established in DOE Order 440.1A, Worker Protection Management for DOE Federal and *Contractor* (see def.) Employees. The AMWTP is not a "closure facility" under the current contract scope and therefore those 10 CFR 851 requirements are not applicable at the AMWTP site. If closure facility activities are contractually authorized, this WSHP will be updated to reflect the new program requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Commitment: This Program Description supports the BBWI commitment to ensuring each employee is provided with a safe and healthy work environment. It incorporates *Integrated Safety Management (ISM; see def.)* principles and functions contained in PD-ISM-01, Integrated Safety Management Program Description.

Application: This Program Description applies to all AMWTP and subcontractor employees, and activities that are:

- Conducted within AMWTP site operations
- Associated with work activities to retrieve, characterize, treat and package transuranic waste for shipment out of Idaho to permanent disposal at the Waste Isolation Pilot Plant in New Mexico (WIPP)
- Associated with DOE directed work.

BBWI and our subcontractor employees performing work at leased facilities are covered by this program. Activities conducted by the landlord and their respective subcontractors at leased facilities are not covered by the program.

2.1 Subcontractors

BBWI has implemented a process to assure the requirements of 10 CFR 851 are appropriately flowed down to subcontractors performing work at the AMWTP site. This process includes:

- BBWI Environmental, Security, Safety, and Health (ESS&H) review of requests to acquire subcontractors to perform physical work at the AMWTP site, and review and approval of selected subcontractors
- Assignment of a Subcontractor Technical Representative to coordinate and oversee the work (excludes staff augmentation personnel)
- Affected subcontractors will work in accordance with this Program Description, as applicable. A specific clause is included in those subcontracts to incorporate the requirements of PD-ISIH-06 and 10 CFR 851.
- Incorporation of BBWI Special Conditions into affected contracts that require subcontractors perform work in accordance with the AMWTP Work Control Program and other *applicable requirements* (see def.) and procedures including applicable requirements of 29 CFR 1910, Occupational Safety and Health Standards, and 29 CFR 1926, Safety and Health Regulations for Construction.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

3.0 COMPLIANCE

BBWI AMWTP complies with the requirements contained in 10 CFR 851. Compliance is achieved through the AMWTP *Industrial Safety/Industrial Hygiene (IS/IH; see def)* Program, described in this document that incorporates PD-ISIH-01, Industrial Safety/Industrial Hygiene Program Description, and PD-ISM-01, Integrated Safety Management System Program Description Document. The AMWTP ISIH program is reflective of the ISMS and the tenants of the Voluntary Protection Program (VPP).

4.0 IMPLEMENTATION

BBWI has developed and implemented procedures, policies and practices designed to ensure the safety of our workers, the public and the environment – and safety is fundamental to the continued success of the project. Leading the way, BBWI developed a policy and goal of “zero accidents and injuries,” formalized in the GDE-10, BBWI AMWTP Employee Handbook, in the FMR-54-06, Injury Free Workplace Policy, and in our mission statement:

The Advanced Mixed Waste Treatment Project will continue to set the standard of excellence for innovation and radioactive waste processing. Our committed, professional team can be counted on to work safely, compliantly, and efficiently. By meeting all production goals and satisfying customer needs, we will become the facility of choice for waste processing operations.

The components and requirements of the AMWTP IS/IH Program fall in line with the ISM Core Requirements and Guiding Principles to define work, analyze hazards, implement controls, perform work safely within the established controls, and provide continuous feedback and improvement. Implementation of the AMWTP ISM Program is in accordance with PD-ISM-01, Integrated Safety Management System Program Description Document.

Two formalized programs within the AMWTP foster employee involvement in the ISM program, and implement ISMS Core Requirement 5 – Continuous Feedback and Improvement:

- The AMWTP Employee Safety and Improvement Team (ESIT) structure is designed to provide employee leadership in resolution of safety related issues. The ESIT helps ensure that AMWTP safety performance is reviewed and any initiatives and improvements are identified and implemented. The AMWTP ESIT confirms that plans and documents having safety impact meet with applicable contract and regulatory requirements in a manner consistent with achieving the economics and innovations of our project, while protecting the health and safety of the workers and the public.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- The Keep Everyone and Yourself Safe (KEYS) Program is a behavioral based safety process that is critical to eliminating at-risk behaviors and driving down injuries. In conjunction with the human performance process it brings the ISM safety culture to the next level. KEYS is a worker owned program, where employees observe one another while performing daily work activities. Observations are entered into a data base, and monthly meetings provide feedback to workers and the management team. With the management support of this program, it will proactively help change behaviors and make positive improvements to ensure a safe working environment for all at AMWTP.

The IS/IH programmatic documents (MP-series) identify the applicable requirements of 29 CFR 1910, 10 CFR 850, Chronic Beryllium Disease Prevention Program (CBDPP), 10 CFR 851 Worker Safety and Health Program, National Fire Protection Association (NFPA), and applicable DOE Orders required by List B of the AMWTP contract. Where BBWI performs or manages work activities defined as “construction” as defined by 29 CFR 1910.12, Safety and Health Regulations for Construction, 29 CFR 1926, standards will apply.

Industrial Safety/Industrial Hygiene requirements are implemented into AMWTP operations through incorporation of requirements from the IS/IH programmatic documents into Instructions (INSTs), Operating Instructions (OIs), Facility Operating Instructions (FOIs), Approved Methods of Work (AMOWs); and the emergent work control documents, Requests for Permit to Work (RPTWs), and Permits to Work (PTWs). LST-ISIH-02-IM, 10 CFR 851 Implementation Matrix, provides a crosswalk between AMWTP procedures and 10 CFR 851 requirements.

To assure implementation and compliance with the requirements, the AMWTP Monthly Safety Report contains information on recent injuries by type and cause, injury and illness rates and leading indicator data for key safety programs. The report allows management and workers to better understand our safety performance related issues and to apply corrective actions for areas not meeting performance expectations. The Leading Indicator Program is focused at looking at unsafe conditions, unsafe acts, unidentified hazards, and near misses on the project. This allows us to identify programmatic weaknesses and correct issues before they result in injuries, as well as improving safety performance, and assure that corrective actions have been effectively implemented.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

5.0 10 CFR 851 SAFETY REVIEW

Issues affecting implementation of this WSHP are identified, screened, and analyzed for individual and collective significance through the AMWTP Contractor Assurance program. This formalized program ensures that safety related facility and site events, assessments, observations, accident and injury reports and other inputs are recorded in a formal, systematic process to evaluate safety significance and to provide a basis for leading indicators and feedback to Safety Management Program (SMP) owners in their respective areas of responsibility. Further analysis of the data provides a basis to determine implementation of 10 CFR 851 program requirements, assists in the identification of the monthly safety issues, and provides a mechanism for feedback to the workers regarding safety performance and lessons learned. This process integrates the Quality Assurance and Price-Anderson reporting requirements as part of the review and evaluation process.

Senior management involvement of the safety program is provided by the Corrective Action Review Board (CARB). By charter, the CARB is responsible for the evaluation of significant conditions adverse to quality and associated Root Causes. This review includes evaluation of corrective actions for effectiveness and adequacy addressing the underlying causes to prevent recurrence.

By implementing this process, *integrated* (see def.) and continuous safety performance improvement is promoted through enhanced communication and understanding of AMWTP safety related issues within all levels of the organization.

A flow diagram of the 10 CFR 851 Safety Review Process is included as Appendix A.

5.1 Roles and Responsibilities

5.1.1 Occupational Safety and Health Manager—ISMS and 851

- Responsible for the overall 851 Program
- Shares data with line managers, SMP Program Owners, Price Anderson Amendments Act (PAAA) Coordinators, and Employees
- Periodically reviews identified 851 information, events, and issues to look for overall collective safety significance and programmatic implications
- Identifies input sources and establishes frequency for periodic review of identified 851 information events, and issues

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- Tasks appropriate organizations with development of Safety Toolboxes, Safety Flashes and Lessons Learned based on individual events, assessments, as well as emerging trends.

5.1.2 Managers at All Levels

- Ensure all Conditions Adverse to Quality (CAQ) from all sources (assessments, surveillances, reports, etc.) are entered into TrackWise™.

NOTE: *A CAQ is an all inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, and non-conforming conditions.*

5.1.3 851 Program Implementation Analyst

- Using reports and other inputs from various sources (KEYS program, ESIT, safety inspections, etc.), analyze safety information into 10 CFR 851 categories (§851.20, §851.21, etc.) in the 851 database.
- Determine 10 CFR 851 collective safety significance and implementation effectiveness for each of the 10 CFR 851 categories.
- Enter identified CAQs from 10 CFR 851 database into TrackWise™.
- Generate the Monthly Safety Report and distribute for employee awareness and program feedback.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

PROGRAMMATIC ELEMENTS (SUBPART C)

6.0 MANAGEMENT RESPONSIBILITIES AND WORKER RIGHTS AND RESPONSIBILITIES (CFR 851.20)

Management responsibilities, accountability, and employee involvement are essential elements of ISMS and for implementation of 10 CFR 851 requirements. Line and senior managers are responsible and accountable for ensuring that work is executed safely and compliantly, in accordance with ISMS Guiding Principle 1 – Line Management is Responsible for Safety. Documents that identify project-specific roles and responsibilities also delineate clear and unambiguous lines of authority and define the responsibilities for ensuring that safety is established and maintained at all organizational levels, in accordance with ISMS Guiding Principle 2 – Clear Roles and Responsibilities.

Workers, line and senior management carry out respective roles and responsibilities listed in this section. Additionally, the IS/IH organization plays a key role in the overall implementation of the program as listed below. Everyone is responsible for performing quality work safely, securely, efficiently, and in an environmentally responsible manner. All roles have integrating ISMS functional support and processes, as well as implementing the Site human performance initiatives, ESIT and KEYS programs.

NOTE: *AMWTP employees are supplemented by seamless contract employees directly supervised by AMWTP managers. These employees are both purchased labor and temporary employees. They are subject to the same IS/IH rules and guidelines for accountability and responsibilities as are all AMWTP employees. These employees are captured in the total hours worked for the project and identified on AMWTP's Injury and Illness log.*

6.1 Functional Responsibilities

6.1.1 Worker Roles and Responsibilities

- A. Assume responsibility and authority to apply “stop work” for any unsafe acts or conditions or when there is procedural uncertainty or lack of clarity for any task. (This applies to everyone working or visiting the AMWTP.)
- B. Take safety personally—develop a questioning attitude, and participate in the identification and resolution of safety and health issues.
- C. Participate on the ESIT and/or interface with crew members or co-workers who serve on the ESIT.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- D. Report to work fit for duty and prepared to work: have the proper tools, protective equipment, and attitude, and minimize distractions that could serve as error precursors.
- E. Participate in the preparation and review of technical procedures, hazards analyses, and work package walkdowns.
- F. Maintain procedural compliance – follow instructions, procedures, directives, and other ISMS work control requirements.
- G. Report any instruction, procedure, requirement, or work control processes that are in error or lack clarity.
- H. Use the KEYS process to report and track applicable issues.
- I. Identify and recognize co-workers for safe behavior through the ESIT and KEYS programs and through supervisors and managers.
- J. Provide feedback for improvement, ideas for innovative approaches, and suggestions to streamline processes and eliminate non-value-added activities.

6.1.2 First Line and Middle Management Roles and Responsibilities

- A. Assume responsibility and authority to apply “stop work” for any unsafe acts or conditions or when there is procedural uncertainty or lack of clarity for any task. (This applies to everyone working or visiting the AMWTP.)
- B. Ensure that work is performed in a safe, secure, cost-effective, and compliant manner consistent with customer expectations.
- C. Ensure effective integration of ESS&H, Quality Assurance (QA), Business Management, and Compliance policies into all work activities.
- D. Support the ESIT, human performance initiatives (HPI), KEYS, and ISMS.
- E. Promote a positive, collaborative work environment.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

6.1.3 Senior Management Roles and Responsibilities

- A. Assume responsibility and authority to apply “stop work” for any unsafe acts or conditions or when there is procedural uncertainty or lack of clarity for any task. (This applies to everyone working or visiting the AMWTP.)
- B. Support workers and first line/middle management in meeting expectations through leadership and by providing the necessary resources.
- C. Actively emphasize that safety and compliance are prerequisites to performing work at the AMWTP.
- D. Actively participate in the resolution of safety and compliance issues and ensure that safety practices are applied consistently within the AMWTP.
- E. Provide meaningful and consistent support of employee safety programs and positive reinforcement when employees utilize the "stop work" process. Ensure active support to employees who report safety concerns.
- F. Be champions for ESIT, human performance improvement initiatives, and KEYS programs.
- G. Be open and honest with employees at all times. Be accessible to employees and communicate often, clearly, and concisely. Actively listen to employees and promptly follow up on concerns.
- H. Establish clear roles and responsibilities commensurate with accountability and authority.
- I. Actively recognize and reward employees for innovations that improve safety and performance.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

6.2 Industrial Safety/Industrial Hygiene Organization Roles and Responsibilities

6.2.1 Environmental, Security, Safety and Health Manager

The leadership and overall responsibility for establishing and maintaining the IS/IH Program is assigned to the Manager of ESS&H. The ESS&H Manager reports directly to the President and General Manager of AMWTP in addition to the Vice President and Plant Manager and the Waste Programs Manager. The dual reporting role allows for operational integration of programs, while providing the necessary functional independence of a safety support organization.

6.2.2 Industrial Safety/Industrial Hygiene Manager

The IS/IH Manager reports to the ESS&H Manager and is responsible for determining program requirements, ensuring implementation of the program, and provision of support to the line operating and maintenance organizations. The IS/IH department is the primary organization responsible for identifying and disseminating the IS/IH Program requirements to line management for implementation. The IS/IH Manager is responsible for the following programmatic requirements:

- Developing company-wide IS/IH policy, guidance, procedures and other implementing instructions
- Tracking, evaluating, and commenting on proposed IS/IH regulations
- Interpreting existing and new regulations
- Determining applicability of IS/IH requirements
- Developing and maintaining the company IS/IH program requirements documents
- Review and approval of OIs, FOIs and AMOWs for routine work
- Review and approval of Permits to Work (PTW) for emergent, non-routine work.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

6.2.3 Industrial Safety/Industrial Hygiene Professionals

Industrial Safety/Industrial Hygiene Professionals are qualified individuals in various disciplines including Certified Industrial Hygienists (CIHs), Certified Safety Professionals (CSPs), Fire Protection Engineers (FPEs), and others that report to the IS/IH Manager and perform the day to day implementation and support of the AMWTP IS/IH program. Interfacing directly with workers, supervisors and other organizations, and working within established implementing procedures, the IS/IH Professionals are responsible for:

- Providing input, as requested and appropriate into development of INSTs, OIs, FOIs, and AMOWs for routine work, and PTWs for emergent, non-routine work
- Providing input, as requested and appropriate into development of IS/IH procedures, Fire Hazard Analyses (FHA), Hazard Analyses, and other IS/IH documents
- Performing worker and workplace monitoring activities
- Assisting in the development of safety training lesson plans and modules
- Inspecting work sites and work activities for compliance with IS/IH requirements
- Supporting the procurement of goods and services through appropriate review to ensure IS/IH requirements are met.

6.3 Informing Workers of Rights

Workers at the AMWTP are informed of their rights under 10 CFR 851 through the following means:

- Posting of the DOE-designed Worker Protection Poster in the workplace where it is accessible to all workers
- As an element of the Facility Access (GET) Training provided on an annual basis to all employees.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

6.4 Access to Information

The AMWTP Document Control System is designed to ensure that documents are complete, technically accurate, in compliance with regulatory/contractual requirements and standards, are usable and meet user needs, and are appropriately implemented. All IS/IH procedures, instructions, and applicable documents are written and managed within this system. Workers perform work within controls identified in applicable procedures and other documents related to the activity at hand. The supervisor is responsible for ensuring that each worker involved in a work activity has access to all needed or requested documents.

6.5 Safety Communication

Feedback for IS/IH related matters are conducted through a variety of formal and informal methods. Feedback informs employees of events, training, safety issues, management decisions, policy changes, and other company news requiring timely notification for employees to act or respond. Industrial Safety/Industrial Hygiene often works with the Communications Staff and determines what messages are appropriate for what company communication medium. Feedback to all employees is reviewed and approved prior to issue. The methods of communication may include:

- The AMWTP homepage (Safety Surf)
- AMWTP Safety Toolboxes
- AMWTP Lessons Learned Program
- AMWTP Safety Shares
- Monthly Safety Reports
- KEYS Observation Reports
- ESIT Meeting Minutes
- Safety Flashes
- E-mail messages to employees (“AMWTP Project Notes”)
- Messages from company senior management (“From the President”)
- E-mail messages to all managers

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- Posters, brochures, booklets, presentations, displays and other visual communications
- Company newsletters
- Internal electronic monitor messages.

On the job IS/IH feedback is communicated routinely during various forums. These include:

- Pre-job walk downs, pre-job briefs, and post-job reviews
- Plan-of-the day meetings, employee safety team meetings, staff meetings, and similar routine interfaces
- IS/IH personnel in contact directly with the work force.

6.6 Reporting and Responding to Events and Hazards

AMWTP has established the Employee Concerns Program to provide a mechanism for workers to report, without reprisal, job-related issues and to make recommendations for appropriate ways to control hazards. This program has been established for employees to use in identifying, submitting, and resolving concerns in the areas of environmental, safety, health. When an employee feels their concern has not be adequately resolved with their first-line supervisor, their management chain, applicable organization management, and/or the employee is not comfortable doing so, the employee may report concerns to the Employee Concern Program.

AMWTP supports the employee's right to bring concerns or unresolved issues to the attention of management at any level within the organization. Employees are encouraged to first use the issue resolution methods identified in the dispute resolution process. However, employees may also take concerns directly to external organizations available for reporting concerns.

BBWI will not tolerate any retaliation directly or indirectly against an employee for filing a concern or prompting others to do so. Any employee who retaliates or participates in such retaliation will be subject to disciplinary action.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

6.7 Stop Work Authority

Each worker is empowered to Stop Work if an unsafe condition exists, through the Employee Concern Program and the Employee Handbook, without the fear of reprisal. Prompt notification to the immediate supervisor is required. Resumption of work will not proceed until after the condition has been evaluated and appropriate mitigations performed.

6.8 Budget and Procurement

Industrial Safety and Health is a primary consideration in the planning and execution of AMWTP work activities. Management is responsible for prioritizing and allocating resources to insure that the WSHP requirements can be fulfilled.

AMWTP has a fully documented and mature procurement process and material management system, including subcontract management and field procurement in accordance with its contract with DOE. Hazard Communication Program details are provided to employees through training and indoctrination. Program details are available, upon request, to the employees' designated representatives, and to appropriate representatives of state and/or Federal safety and health agencies.

7.0 HAZARD IDENTIFICATION AND ASSESSMENT (10 CFR 851.21)

As an essential part of the ISMS process, hazard identification forms the basis for Core Requirement 2 – Analyze Hazards. Management and employees are responsible for assuring the process used for *hazard analysis* (see def.) is tailored to the risk and consequence of the hazard, performing sampling and monitoring before and during the work activities to assure worker safety, and communication of the hazards to all personnel that could be affected by an identified hazard.

As a single mission production project, AMWTP has many routine tasks. These tasks have undergone extensive hazard analyses and are included in INST procedures/instruction documents. The hazard identification process flows down from the Documented Safety Analysis (DSA), to the Hazard Assessment process. The hazard assessment process provides for the identification of hazards using workers, management, and the SMP owners to identify hazards for all facility operation or building processes.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Line management is responsible for analyzing the hazards associated with their activities. Workers are involved in this process early in the work planning phase to ensure those performing the work are aware of the hazards and the purposes of the hazard controls implemented. Multi-disciplinary teams support hazard analysis through a combination of feedback and lessons learned, record reviews, personnel interviews, and physical/conceptual walk through of the work areas. Depending on the complexity of the work, subject matter experts are involved in the analysis of health and safety impacts, which are then integrated into AMWTP's Work Control process.

In cases where the hazard analysis indicates that worker protection sampling and monitoring is needed, the IS/IH organization is responsible for the development and implementation of the sampling plan. The development of sampling strategies is dependent upon current operations, types of contaminants that may be encountered, number of workers potentially exposed, types of activities being performed, meteorological and environmental conditions, and the inherent variability of the process or activity being investigated. Sampling strategies may be modified as activities or environmental circumstances change. Processes generating a single or limited number of contaminants may require a relatively simple sampling strategy. Likewise, more complex operations involving hazardous materials may require multiple considerations. Sampling strategies are typically developed for organic vapors, gases, dusts, noise, heat, and non-ionizing radiation. The strategy or approach is predetermined and prescribes the number and duration of samples needed to fully evaluate the exposure hazard during "normal" activities.

Normal activities can change dramatically due to weather, delays, time of year, shutdowns, shortened deadlines, etc. The general approach is to identify the employee(s) who demonstrates the greatest potential for exposure to an agent being investigated. This determination requires a detailed understanding of the process that generates the contaminant and the manner in which the contaminant presents itself (i.e., intermittent, cyclic, continuous, or a combination of these). This may not yield the "required" number of samples under all circumstances, but it is a reasonable approach that should be used by the project IS/IH personnel or designees when attempting to establish a worst-case scenario for exposure to hazardous conditions.

Sampling strategies depend on full-shift monitoring when at all possible. Full shift personal samples allow the greatest accuracy in determining an exposure. Project IS/IH personnel or designees should determine job classifications and work areas with the highest potential for exposures, and prioritize them. All job classifications and work areas may not require sampling. However, those designated as high priority would be likely candidates.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Results of sampling/monitoring results are reviewed with the workers involved in the various work activities associated with the sampling/monitoring, and the records are managed in accordance with Records Management requirements.

The AMWTP Hazard Communication Program, establishes the written Hazard Communications Program for the project as required by 29 CFR 1910.1200, Hazard Communication. The Hazard Communication Program applies to all operations at the AMWTP that may expose employees to hazardous substances during normal work condition or as a result of a reasonably foreseeable emergency. It is available, upon request, to employees, their designated representatives, and to appropriate representatives of state and/or Federal safety and health agencies.

8.0 HAZARD PREVENTION AND ABATEMENT (10 CFR 851.22)

Core Requirement 3 – Develop and Implement Hazard Controls, and Core Requirement 4 – Perform Work Safely within Established Controls of the ISMS process is implemented through the work control process at AMWTP. As instructions, OIs, FOIs, and AMOWs for routine work and PTWs for emergent, non-routine work are developed, controls for hazards identified during the analysis process are implemented in a hierarchy that includes:

- Elimination or substitution of hazards where feasible and appropriate
- Engineering controls where feasible and appropriate
- Work practices and administrative controls that limit worker exposures
- Personnel protective equipment.

AMWTP has an established and implemented a hazard prevention and abatement process. Administrative controls and engineering designs to prevent and mitigate hazards and environmental impacts are tailored to the work being performed as well as the associated hazards and impacts. Activities are evaluated using the hazard assessment process. The hazard assessment process provides an integrated approach for conducting a hazard analysis for Project work activities to ensure that controls are commensurate with risk involved.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Hazard control (prevention and abatement) is performed in concert with the hazard identification and the analysis related to the process described in the previous section. As work scopes are defined in greater detail, the hazard assessment is also more detailed and tailored to the specific work activity, and is used to evaluate work related to risk and work is prioritized based upon that. Approved work instructions are also evaluated to assure they reflect appropriate federal and state laws, regulations, standards, and DOE directives relative to safety and health.

The resulting hazards identification and controls are then implemented through the work control process into the INSTs, OIs, FOIs, AMOWs, and PTWs. Health and Safety protection is incorporated into activities and enhanced by including workers who perform the tasks in the planning, hazard analysis, procedure development, and performance improvement/feedback process (i.e., Lessons Learned), as appropriate, and the Training and Qualification Program.

9.0 SAFETY AND HEALTH STANDARDS (10 CFR 831.23)

9.1 Chronic Beryllium Disease Prevention Program (10 CFR 850)

AMWTP does not perform any production work with beryllium or beryllium alloys. Because beryllium has been identified as a hazardous constituent within the legacy waste containers, there is a potential for low-level beryllium exposure during certain AMWTP operations. The Chronic Beryllium Disease Prevention Program implements the process for protecting workers at AMWTP from chronic beryllium disease that is consistent with requirements specified in 10 CFR 850.

9.2 Recording and Reporting Occupational Injuries and Illnesses (29 CFR 1904.4 – 11; 1904.29 – 33; 1904.44 and 1904.46)

Recording and reporting requirements of 29 CFR 1904 are implemented through the Occupational Medicine and the IS/IH programs by classifying workplace injuries and illnesses, recording, and providing notification to Occupational Safety and Health Administration (OSHA) and DOE of significant events and accidents involving injuries. Records generated as a result of implementation of the program are maintained in accordance with the program retention requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3 Occupational Safety and Health Standards (29 CFR 1910)

9.3.1 Walking – Working Surfaces and Scaffolds

29 CFR 1910, Subpart D, contains regulations on walking and working surfaces and scaffold use applicable to AMWTP operations.

Requirements include those for protecting openings in floors and walls and for using and maintaining fixed and portable ladders, scaffolds and stairs. The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart D requirements.

9.3.2 Means of Egress

29 CFR 1910, Subpart E, contains regulations for establishing and maintaining appropriate means of egress originated in the design and construction of the AMWTP facilities. Facilities are inspected monthly to verify that the evacuation routes and exits are clearly marked and maintained unobstructed. The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart E requirements.

9.3.3 Powered Platforms, Manlifts and Vehicle-Mounted Work Platforms

29 CFR 1910, Subpart F, contains regulations for the safe placement and operation of powered platforms used for building maintenance, vehicle-mounted elevating and rotating work platforms, and manlifts. Use of this equipment during AMWTP operations by Operations, Maintenance, or Subcontractor personnel requires fall protection and job-specific equipment training prior to use. The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart F requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.4 Occupational Health and Environmental Control

29 CFR 1910, Subpart G, contains regulations for ventilation and occupational exposure to noise and non-ionizing radiation. Primary ventilation controls are incorporated in the Project Design Criteria and included in the basic operating system of the AMWTP. These design features (ventilation and enclosure/confinement) incorporate OSHA hierarchy of controls by the application of engineering controls to mitigate both toxic material and radiological hazards. These features represent significant exposure and reduction designs utilized for routine operations. Appropriate work control documents are used for emergent work operations and maintenance involving abrasive blasting, grinding, polishing, buffing, and spray finishing, if these operations are conducted.

AMWTP IS/IH personnel monitor work areas to determine employee exposure to noise, electromagnetic radiation, and toxic substances. If exposure levels are elevated, engineering and administrative controls are implemented. Personal Protective Equipment (PPE) is used only after other control measures are not possible, are inadequate, or in most cases at AMWTP as a “defense in depth”.

ACGIH threshold limit value (TLV) limits for exposure to noise and non-ionizing radiation are used in determining the need for additional engineering, administrative, or PPE controls. AMWTP follows the ACGIH TLV for noise, which is 85 dBA over an 8-hour work period. Equivalent noise TLVs are adjusted for longer work periods, if these levels are exceeded, then a hearing conservation program is implemented, in accordance with 29 CFR 1910.95.

Periodic noise surveys are conducted during operational activities to identify noise levels. Appropriate measures are then taken (e.g. personnel will be supplied with hearing protection) to control the levels to within the allowable noise range if engineering controls cannot be effectively implemented.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart G requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.5 Hazardous Materials

29 CFR 1910 Subpart H contains regulations for safe storage, handling, and use of hazardous materials during AMWTP operations.

Requirements for hazardous materials include compressed gases (including specific regulations for acetylene, hydrogen, oxygen, and nitrous oxide), flammable and combustible liquids, liquefied petroleum gases, process safety management of highly hazardous chemicals, and hazardous waste operations and emergency response.

Compressed gas cylinders, including cryogenic gas cylinders, are inspected, stored, handled, and used in accordance with the OSHA requirements. The liquefied petroleum gases tank and piping system is installed with safety features.

A chemical inventory is maintained to minimize the amount of chemicals required in conducting operations. Process safety management measures would be implemented if threshold quantities for highly hazardous chemicals were ever exceeded. Where possible, chemicals are used that do not constitute a hazardous waste when spent.

AMWTP operations are conducted in accordance with Hazardous Waste Management Act/Resource Conservation Recovery Act (HWMA/RCRA) permits and environmental regulations. Written program requirements for hazard communication, medical surveillance, material handling, and safety and health related training related to Hazardous Waste Operations and Emergency Response (HAZWOPER) are included in the AMWTP operations IS/IH procedures and instructions.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart H requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.6 Personnel Protective Equipment

29 CFR 1910, Subpart I, and as applicable ANSI Z49.1 contains regulations on PPE. Requirements include those for eye, face, head, foot, and hand protection, protective clothing use, hearing and respiratory protection devices, protective shields and barriers, and electrical safety equipment. Personnel use protective equipment as needed in the AMWTP, but the design of the facility precludes the majority of exposures during normal operation. PPE is most often used for “defense in depth” at AMWTP. Selection of PPE is documented as part of the formal hazard assessment process and is placed in the appropriate INST, OI, AMOW, or PTW.

Non-routine activities such as work on or in Zone 2 and 3 areas or responses to upset conditions (i.e., material release, spills) require separate, specific hazard assessments. These activities may require increased levels of PPE and exposure monitoring.

The PPE requirements are included in the AMWTP IS/IH procedures and instructions. IS/IH personnel conduct assessments and monitor AMWTP operations to determine when PPE is required and to determine the adequacy/continued effectiveness of other controls. The equipment selected conforms to the applicable regulatory requirements and American National Standards Institute (ANSI) standard.

The AMWTP implements a Respiratory Protection Program that meets the requirements of 29 CFR 1910.134 and the latest version of ANSI Z88.2. The Respiratory Protection Program includes requirements governing the selection, issuance, use and care of respirators, medical surveillance, and respirator user training. IS/IH administrates the respiratory program, and a designated IS/IH staff member serves as the Respiratory Protection Program Administrator (RPPA). AMWTP utilizes National Institute for Occupational Safety and Health (NIOSH) approved respiratory protection in conjunction with layered clothing. Special respiratory devices approved by entities other than NIOSH are not used.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart I requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.7 General Environmental Controls

29 CFR 1910, Subpart J, contains regulations on environmental controls required during AMWTP operations. Requirements include those for sanitation, standards for safety signs and tags, and safe activities when working in confined spaces or with energized equipment.

The AMWTP facilities are constructed to meet the sanitary requirements of the regulation, and housekeeping and workplace inspections are performed to maintain a safe working environment. Facility equipment and building components contain the appropriate signs and tags to ensure personnel are apprised of the hazards present.

AMWTP has IS/IH management procedures and work instructions for conducting work involving confined space entries and lockout/tagout (LO/TO) of energized equipment. The confined space procedure requires using an appropriate work control document before entering the confined space. The work control program document review follows the integrated safety management core functions to ensure that work is performed in a safe manner.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart J requirements.

9.3.8 Medical and First Aid

29 CFR 1910, Subpart K, contains a regulation for medical and first aid services required during the project. The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart K requirements.

9.3.9 Compressed Gas and Compressed Air Equipment

29 CFR 1910, Subpart M, contains a regulation for air receivers used during AMWTP operations. Air receivers are selected, installed, and tested according to the requirements of this regulation to ensure safe operations.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart M requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.10 Material Handling and Storage

29 CFR 1910, Subpart N, contains regulations for safe use of forklifts, lift trucks, cranes, slings, etc., used during AMWTP operations. All powered industrial trucks and cranes are selected and inspected before being placed in service to verify their safe operation. Only qualified operators are allowed to use the equipment in accordance with safe operating practices. A preventive maintenance program is established to ensure the material handling equipment is inspected, serviced, and repaired or replaced as needed.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart N requirements.

9.3.11 Machinery and Machine Guarding

29 CFR 1910, Subpart O, contains regulations for the installation and maintenance of machine guarding required to safely isolate point of operations, pinch points, and rotating parts on machines used during AMWTP operations.

AMWTP machinery is designed and installed with machine guarding or other engineering/administrative controls implemented to protect the workers from hazards such as pinch points, rotating shafts, crushers, and shears. Guarding may also be accomplished by location, interlock or trapped key systems.

Periodically the safety brakes, restraints, interlocks, and other safety features are verified to be operational. Certain areas (Zone 3) that are not accessible during normal operations contain equipment that does not meet all machine guarding requirements. Equipment in these areas are configured in this manner to decrease time necessary to perform maintenance tasks for as low as reasonably achievable (ALARA) purposes. Prior to entry into Zone 3 areas where guarding does not meet OSHA requirements, compensatory measures will be implemented including LO/TO and “trapped key systems.”

- The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart O requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.3.12 Hand and Portable Powered Tools and Other Hand-Held Equipment

29 CFR 1910, Subpart P, contains regulations for selecting and using hand and portable powered tools during AMWTP operations. These tools include saws, sanders, pneumatic tools, grinders, lawn mowers, and jacks.

AMWTP workers are provided safe tools and equipment that contain the required guarding, safety interlocks, and other safety features. The tools are inspected by the workers before use to ensure the tools are in safe operating conditions.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart P requirements.

9.3.13 Welding, Cutting, and Brazing

29 CFR 1910, Subpart Q, and 29 CFR 1926, Subpart T, contains regulations for safe welding, cutting, and brazing operations that may occur during AMWTP operation. Requirements include those for oxygen-fuel gas welding and cutting, arc welding and cutting, and resistance welding. The safe work practices include welder safety, trained fire watches, fire prevention, ventilation, and safe welding procedures.

Appropriate emergent work control documents are prepared before any welding or cutting job is started. Only trained and qualified technicians perform welding and cutting operations using approved welding procedures, instructions, and PPE, as describe in ANSI Z 49.1

The occupational safety and industrial hygiene organization inspects welding and cutting operations to verify that the ventilation is meeting minimum airflow requirements and to ensure fire control measures. The AMWTP Fire Prevention Plan and associated fire safety procedures implement the AMWTP Fire Protection Program.

The AMWTP employees are typically trained on the use of portable fire suppression systems and are educated on the proper response to a fire alarm. Drills are conducted routinely to ensure that personnel understand the proper response to fire alarms.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart Q or T requirements.

9.3.14 Electrical

29 CFR 1910, Subpart S, contains regulations for the design, installation, or repair of electrical components that may be conducted during AMWTP operations. The regulations are divided into two categories:

- Design safety standards for electrical systems
- Safety-related work practices.

Design safety standards include requirements for wiring design; wiring methods, components and equipment for general use; specific purpose equipment and installations; hazardous locations; and special systems.

The treatment facility electrical systems/components are constructed and modified in accordance to the required design standards. The AMWTP Project Design Criteria document specifies that the NFPA standard be followed. Redundant “trapped key interlock systems” have been incorporated in the design to protect workers accessing equipment for maintenance in accordance with applicable ANSI standards. Flash Protection is provided in accordance with NFPA 70E and is implemented through the work control process.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart S requirements.

9.3.15 Toxic and Hazardous Substances

29 CFR 1910, Subpart Z, includes regulations for the safe use of various toxic and hazardous substances that may be present during AMWTP operations. The subpart also contains regulations for employee access to medical records, hazard communication program, and retention of Department of Transportation (DOT) markings, placards, and labels.

Whenever feasible, the hazardous and toxic substances listed in Subpart Z are not used. Before any products are procured, IS/IH staff evaluates material safety data sheets to determine if they contain any of the substances listed. If so, a suitable alternate product is considered. If an alternate product cannot be used, the applicable requirements (for the particular substance) are implemented. Also, a hazardous substance listed in Subpart Z may be present in the waste being treated (e.g., lead).

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

If the substance is present in the waste, the specific requirements of the corresponding regulation are implemented. The requirements typically include provisions for training, monitoring, PPE, and other safe practices necessary to reduce exposures to the hazardous or toxic substances.

During new employee orientation, all operations employees are trained on the hazard communication program and are also informed of their right to their medical records and the process for accessing those records.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subpart Z requirements.

9.3.16 Hydrogen Deflagration Mitigation Process

The Hydrogen Deflagration Mitigation Process at AMWTP is documented in RPT-ESH-049, dated April 10, 2007. With respect to hydrogen deflagration hazards, this document has been revised to more appropriately describe the relationship between the AMWTP authorization basis and applicable AMWTP Safety Management Programs (SMPs).

The engineering and operational controls stated in this document are associated with the AMWTP Work Control Program and 10 CFR 851 compliance as stated in the report. As the implementation document for 10 CFR 851, changes are required to be approved by DOE-ID. By describing AMWTP's Hydrogen Deflagration Mitigation Process in this WSHP, changes will not be made to the control sets specified in this report without DOE-ID approval.

9.4 Safety and Health Regulations for Construction (29 CFR 1926)

9.4.1 Motor Vehicles and Mechanized Equipment

29 CFR 1926, Subpart O, contains general and specific regulations for motor vehicles and mechanized equipment that may be used at AMWTP. Requirements include those for motor vehicles and material handling.

29 CFR 1926, Subpart W, includes regulations for the availability, functionality, and safety features of rollover and overhead protection for construction equipment that may be used at AMWTP.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

The Plant Services organization inspects motor vehicles to verify that required safety features are present and operable. Workers also inspect their vehicles at the beginning of each shift.

The AMWTP IS/IH program has implemented controls and procedures to comply with the applicable Subparts O and W requirements.

9.4.2 Excavations

29 CFR 1926, Subpart P, contains general and specific regulations for safe work practices for any excavation performed at AMWTP. All entry and egress means, sloping, shoring, barricades, and other safety measures comply with Subpart P and its appendices. The AMWTP IS/IH organization or trained competent worker inspects all excavations before entry to ensure the requirements of Subpart P and its appendices are followed.

9.5 Threshold Limit Values for Chemical Substances, Physical Agents, and Biological Exposure Indices – American Conference of Governmental Industrial Hygienists

All operations at the AMWTP are performed using appropriate engineering, administrative, work practice, and personal protective control methods to limit hazardous exposures to acceptable levels using American Conference of Government Industrial Hygienists (ACGIH) and OSHA limits, whichever is more conservative.

9.6 American National Standard for Respiratory Protection (ANSI Z88.2)

AMWTP implements a Respiratory Protection Program that meets the requirements of 29 CFR 1910.134 and the latest version of ANSI Z88.2. The respiratory protection program includes requirements governing the selection, issuance, use and care of respirators, medical surveillance, and respirator user training. IS/IH administrates the respiratory program, and a designated IS/IH staff member serves as the RPPA. AMWTP utilizes NIOSH-approved respiratory protection in conjunction with layered clothing. Special respiratory devices approved by entities other than NIOSH are not to be used.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.7 Safety in Welding, Cutting, and Allied Processes (ANSI Z49.1)

AMWTP implements a structured program to assure that applicable safety requirements of ANSI Z49.1 are met. The program includes inspection of welding equipment and work areas to assure proper operation and that flammable and combustible substances are removed or covered during welding activities.

Appropriate emergent work control documents are prepared before any welding or cutting job is started. Only trained and qualified technicians perform welding and cutting operations using approved welding procedures, instructions, and PPE.

The occupational safety and industrial hygiene organization inspects welding and cutting operations to verify that the ventilation is meeting minimum airflow requirements and to ensure fire control measures. The AMWTP Fire Prevention Plan and associated fire safety procedures implement the AMWTP Fire Protection Program.

The AMWTP employees are typically trained on the use of portable fire suppression systems and are educated on the proper response to a fire alarm. Drills are conducted routinely to ensure that personnel understand the proper response to fire alarms.

9.8 National Electrical Code (NFPA 70 and 70E)

The AMWTP Electrical Safety Program implements and provides instructions for the administration of the Electrical Safety Process and Program. This program identifies the requirements for an electrically safe workplace and to help protect workers from electrical hazards. Safety-related work practices are employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contact when work is performed on or near equipment or circuits, which are, or may be, energized. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards. The flash protection boundary shall be calculated using the appropriate formula of NFPA 70E, Electrical Safety Requirements for Employee Workplaces.

Programs and processes dealing with the installation of electrical conductors, equipment, etc., with respect to safeguarding persons and property from the hazards that arise from the use of electricity shall be in accordance with the NEC, NFPA 70.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

9.9 Lasers

The safe operation of non-ionizing radiation producing equipment at AMWTP includes Class II and III lasers operating in conformance with ANSI Z136.1, Safe Use of Lasers (2000).

10.0 FUNCTIONAL AREAS (10 CFR 851.24 Appendix A)

10.1 Construction Safety

The AMWTP IS/IH Program has implemented controls and procedures to comply with the applicable Subpart of 29 CFR 1926 requirements that include scaffolding, ladders, stairs, railings and toe boards, excavation and surface penetration, and motorized vehicles and heavy equipment.

BBWI uses subcontractors for performance of construction at the AMWTP site and requires those subcontractors to conform to the BBWI Worker Safety and Health Program, Bechtel BWXT Idaho, LLC General Provisions for Onsite Services/Construction and BBWI Special Conditions.

The General Provisions incorporate ISMS requirements, as well as Ability to Work provisions. The Special Conditions establish that work must be performed in accordance with the AMWTP Work Control program and that a job site supervisor be present at all times during subcontractor performance.

10.2 Fire Protection

The Fire Protection Program Policy Statement and the AMWTP Fire Protection Program (FPP) implement the fire safety and emergency response requirements. The directive outlines the fire protection criteria and procedures, analysis, hardware and systems, apparatus and equipment, and personnel necessary to ensure comprehensively that the objectives of Part 851.23(a) are satisfied to the degree that each is applicable to the AMWTP and the AMWTP contract with DOE.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

The FPP documents compliance with applicable building code and NFPA codes and standards, describes all defense-in-depth aspects of fire prevention, mitigation, and control relevant to radioactive material containment, property conservation, life safety, and environmental safety. It establishes requirements and responsibilities for managing and implementing the FPP for AMWTP controlled areas and facilities to the degree consistent with the level of control or ownership of each structure or area.

AMWTP procedures provide instructions and the requirements to develop and implement FHA for all applicable site facilities and areas in accordance with the 10 CFR 851.23(a). The FHAs are updated on at least a tri-annual basis using a *graded approach* (see def.) for all facilities under AMWTP control.

A current BEA Baseline Needs Assessment (BNA) establishes the minimum required capabilities of onsite fire-fighting forces required to assure worker safety and health and property protection has been performed. The scope was to evaluate current conditions and future needs as it relates to the response capabilities of the INL Fire Department. A Service Agreement with the Idaho National Laboratory (INL) Management and Operations (M&O) Contractor establishes coverage of all fire alarms from AMWTP to the INL Central Alarm Center and applicable emergency response (Fire Department and EMS). The AMWTP Fire Marshal remains abreast of INL initiatives through the INL Fire Council regularly scheduled meetings.

10.2.1 Fire Protection Equivalencies

AMWTP Equivalencies that were granted prior to the promulgation of the Rule, and in accordance with authority having jurisdiction and equivalency provisions of a code or standard should continue to be acceptable to DOE and not require a variance. AMWTP Equivalencies include:

- Equivalency Request for Annual Maintenance Testing on the AMWTP Water Mist Fire Protection Systems (DOE-ID-FPEQ-AMWTP-04-02, May 20, 2004)
- Transuranic Storage Area-Retrieval Enclosure Fire Protection Equivalency (DOE-ID-FPEQ-AMWTP-02-01, August 5, 2002).

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

10.3 Explosives Safety

Work activities involving explosives are outside the current contract scope of the AMWTP. If work with explosives is contractually authorized, this WSHP will be updated to reflect the explosives safety program implementation.

10.4 Pressure Safety

The Pressure Safety Program implements the programmatic requirements for Pressure Safety. In addition, engineering design documents use applicable references to ensure that pressure systems are designed and fabricated appropriately. The maintenance program requires equipment to be tested, inspected, maintained, repaired, and operated on a schedule and performed by trained and qualified personnel. Pressure relief devices, piping, fittings, gauges, valves, pumps, heat exchangers vacuum systems and associated pressure-retaining hardware are considered components of pressure systems.

10.5 Firearms Safety

Work activities involving firearms are outside the current contract scope of the AMWTP. If activities involving firearms are contractually authorized, this WSHP will be updated to reflect the firearms safety program implementation.

10.6 Industrial Hygiene

The functional requirements of the AMWTP Industrial Hygiene Program are implemented by PD-ISIH-01, Industrial Safety/Industrial Hygiene Program Description. Requirements related carcinogen exposure control, confined space, employee notification of monitoring results, hazard analysis, to include occupational exposure assessment, Hazard Communication, equipment calibration, and checks, and operation, hearing conservation, heat stress, respiratory protection, and the use of accredited laboratories are some of the functions found within the Industrial Hygiene Program implementing series procedures.

10.7 Biological Safety

Work activities involving biological etiologic agents are outside the current contract scope of the AMWTP. If activities involving biological etiologic agents are contractually authorized, this WSHP will be updated to reflect the biological agent safety program implementation.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

10.8 Occupational Medicine

AMWTP has in place an Occupational Medical Program (OMP), to minimize the risk of injury and illness and maintain a medical program that implements the requirements of 10 CFR 851.24. The OMP is applicable to workers or subcontractors that work at the AMWTP site for more than 30 days in a 12 month period, or are enrolled for any length of time in a medical or exposure monitoring program. Subcontractors are responsible for providing evidence of compliance with 10 CFR 851.24 requirements. The OMP is designed to support the goal of zero accidents through the development of detailed physical demands assessments coupled with routine medical evaluations and screenings. The OMP is capable of dealing with injuries and illnesses if they occur, and is responsible for directing initial and follow-up care as necessary.

The AMWTP OMP provides for worker protection through:

- Baseline health assessments of employees in accordance with OSHA standards and DOE Orders.
- Provision of medical surveillance of employees who may be exposed to hazardous or radioactive material, or who request surveillance.
- Provision of physical exams and medical surveillances that are performed in accordance with OSHA requirements under 29 CFR 1910.120, 1910.134, other substance-specific standards, and List A (statutory) requirements where applicable.
- Voluntary screening and medical surveillances provided to beryllium-associated workers in accordance with 10 CFR 850. Provisions are in place for conducting exams for Beryllium Associated Workers in accordance with the CBDPP when identified through monitoring.

The OMP provides standard practices to prevent occupational disease and injury exposure to workers, directed care for employees experiencing occupational illness or injuries, implementation of medical first aid service requirements (per 29 CFR 1910 Subpart K) and employee counseling and health promotional programs. The following provisions of medical and other health-related services form the framework of the OMP:

- Medical emergency, illness, or injury (occupational and non-occupational),
- Review of injuries and illnesses for trends

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- Review of exposure monitoring data to applicability of surveillance requirements
- Administration of the Occupational Health Management (OHM) database
- Return to work (occupational and non-occupational illnesses/injuries)
- Concerns regarding an employee's ability to work (fit for duty)
- Review of Physical Demands Assessments (PDAs) for job functions
- Drug screening
- New hire evaluations
- Annual health evaluations
- Termination examinations
- Employee counseling and health promotional programs such as the Employee Assistance Program, drug and alcohol rehabilitation and wellness programs.

BBWI maintains a group of personnel trained in cardiopulmonary resuscitation (CPR) and first aid in accordance with the AMWTP Emergency Plan/RCRA Contingency Plan. BBWI established a Tri-party Memorandum of Agreement with NE-ID and the INL M&O Contractor that allows AMWTP operations personnel access to ambulance services and medical services at the Central Facilities Area dispensary during emergency incidents. The dispensary provides immediate medical services from staff nurses and physicians. INL Emergency Services evaluates severe injuries/illnesses for transfer to local hospitals.

Routine medical services and non-emergency services (such as pre-employment physicals, non-emergency injury treatment, drug testing, bioassays, and specialized exams) are received at contracted clinics or hospitals which are required to provide services in accordance with AMWTP OMP requirements.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

10.9 Motor Vehicle Safety

AMWTP is a member of the INL Traffic Safety Committee and actively participates and promotes safe driving and traffic safety campaigns both at the AMWTP site and the INL site as a whole. Battelle Energy Alliance (BEA) has been assigned responsibility for traffic control devices and signage, traffic enforcement, speed limits, and other traffic rules by DOE-ID.

Motor Vehicle Safety Elements that are the responsibility of AMWTP are implemented through the Motorized Vehicles and Heavy Equipment Program which defines the responsibilities and requirements for the safe use of motorized vehicles and heavy equipment on the site.

10.10 Electrical Safety

AMWTP Electrical Safety has a formalized Electrical Safety Program that addresses specific safety standards and outlines operating procedures applicable to work activities conducted for AMWTP areas and facilities to ensure that hazards associated with the use of electrical energy are controlled for the safety of the workers. As part of the overall program and approach, the AMWTP LO/TO Program addresses requirements in 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), 29 CFR 1926.417, Lockout and Tagging of Circuits, and DOE O 5480.19, Conduct of Operations Requirements for DOE Facilities.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

11.0 TRAINING AND INFORMATION (10 CFR 851.25)

The AMWTP Personnel Qualification and Certification Process documents qualifications and certifications for AMWTP management, supervision, operations, and support personnel. It mandates the identification of initial and continuing training requirements, qualification and certification requirements, and describes the proficiency, requalification and disqualification processes.

The qualification processes ensure that AMWTP employees, subcontractors, and temporary employees are trained to be competent and proficient in performing plant operations.

Line management identifies the need for personnel resources to support the BBWI mission. Human Resources and line management develop Employee Position Descriptions (EPDs) that specify the job duties and responsibilities and the entry level requirements for a position. Entry-level requirements include minimum qualification (education and experience), licenses or certifications, or special training or skills for the specific job.

Following the hiring process personnel receive both general orientation and site access trainings and job specific training related to the hazards of their positions. As a part of the hiring process, the responsible manager using related guidance documents defines:

- Employee Position Description, defining minimal acceptable qualifications for the position (education, experience, certification)
- Individual Training Plan (ITP)
- Competence Commensurate with Responsibility (CCR) evaluation and signoff.

Employees are trained based on the needs identified by management, through the EPD, and ITP or qualification process. BBWI training comprises a three-tier hierarchy that includes project training, functional training, and facility/activity training. Courses representing these levels are entered on an employee's ITP through the assignment of job codes.

DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities, applies to many operating organization personnel at the AMWTP.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Training is a significant element of employee competency and ability to work safely. A Systematic Approach to Training (SAT) which includes feedback mechanisms is used to ensure that management and employees are provided adequate knowledge and skills to perform assigned tasks. The five-phased SAT process includes the analysis, design, development, implementation, and evaluation processes. This closed-loop process drives dynamic, constant improvement while establishing discipline, predictability, and repeatability for developing and implementing safe, compliant, and cost effective training that produces the competence required to perform work safely.

Project Training—Employees complete company training requirements and ESS&H training such as Facility Access Training, New-Hire Orientation, etc. New employees are indoctrinated on the ISMS process in the new-hire orientations. This training includes an overview of the ISMS guiding principles and core functions.

Functional Training—Employees complete company job or task qualifications that are specific to their functional disciplines and their knowledge and skills for their specific jobs are tested. Examples of training at this level include Quality Assurance, Radiological Controls, Maintenance, etc.

Facility/Activity Training—Employees complete training and/or qualifications that are specific to their assigned facilities or activities.

Training procedures describes the qualification, certification, administration, and training requirements for employees at the AMWTP. This procedure defines the organization, planning, and administration of the qualification programs, and sets forth the responsibility, authority, and methods for conducting training.

In addition to orientation trainings, site access, and ITPs, the work control process through pre-job briefings helps ensure that hazards are discussed and employees are aware of conditions and controls prior to potential exposures.

Through the work control process the employee is limited to only those tasks for which the required training has been completed. This is reinforced by the verification employee training prior to work authorization.

Trained workers perform work as assigned by their supervisors in accordance with approved AMWTP work control procedures. Workers clearly understand that they not only have the right but also the obligation to stop work or safely step back any time they become aware of a potentially unsafe condition.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

When procedures, equipment, or hazards change, a suite of change control processes evaluate the changes, and hazard, specify controls and track changes in our institutional documents. The document owner, based on feedback and the change control process, identifies the level of training/retraining will be required to maintain proficiency.

The WSHP program is staffed by professionals that possess the education, experience, knowledge, skills, and abilities that are necessary to perform their job function in a safe, and effective manner. Using the same processes noted above, this is accomplished through the selection process, establishment of ITPs, and CCRs.

In addition to receiving formal and informal instruction related to the WSHP requirements, trending, tracking, reporting etc., WSHP staff receive site specific training on programs, procedures, and instructions similar to ISIH specialists as part of their ITP.

12.0 RECORDKEEPING AND REPORTING (10 CFR 851.26)

A hazardous material inventory is maintained and kept current electronically, as is the baseline hazard inventory. Links to these inventories are available via the intranet and hard copies upon request.

AMWTP has formalized recordkeeping and reporting process for work-related injuries and illnesses of workers and subcontractors, and meets requirements as set forth in 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses and DOE 231.1A Chg 1, Environmental, Safety and Health Reporting. The requirements as set forth apply to all AMWTP personnel, subcontractors, and other organizations taking direction from AMWTP at all locations and facilities controlled by AMWTP. It does not apply to incidents requiring DOE Type A or B investigations.

AMWTP investigation process of accidents is described and formulated to meet requirements and expectations set forth in DOE O 225.1A, Accident Investigations. The reporting of accidents and injuries to the DOE is performed in accordance with the AMWTP Occurrence Reporting process.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

13.0 VARIANCE PROCESS (10 CFR 851.31)

AMWTP may use the variance process under the following circumstances:

- It is unable to comply with a standard by its effective date because of unavailability of professional or technical personnel or materials and equipment needed to come into compliance with the standard or because necessary construction or alteration of the facilities cannot be completed by the Rule's effective date
- It is able to provide workers a place of employment as safe and healthful using alternate means as would result from compliance with the standard from which the variance is sought; or
- Where the variance is necessary to avoid serious impairment of national defense.

AMWTP Variances will be submitted by the BBWI Contracting Officer through the DOE-ID field office to the Cognizant Secretarial Office (CSO) for approval by the Under Secretary of the Department of Energy, in accordance with the process indicated in 10 CFR 851.31(a).

14.0 TERMS AND DEFINITIONS

Applicable Requirements. As used in this directive, standards, regulations, DOE Directives, and codes that are applicable to the task performed.

Assessment. A structured, documented process to measure the overall status of regulatory compliance and effectiveness of management practices in meeting the S&H objectives and performance criteria.

Contractor. Prime contractor or subcontractor subject to contractual provisions for work performed for Department of Energy on DOE owned, leased, or permitted facilities.

Directives. DOE documents (i.e., Orders, Notices, Policies, Implementation Guides, and Manuals) other than rules and technical standards that support the work performed. Directives constitute both mandatory and non-mandatory documents, however, mandatory directives are those limited by contract requirements.

Goals. Written measures developed for each IS/IH program element and overall program implementation for use by line management as indicators of performance at all levels of management and the work force.

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

Graded Approach. The depth of detail required and the magnitude of resources expended for a particular element to be tailored to be commensurate with the relative importance to safety, environmental compliance, security, programmatic importance, magnitude of the hazard, financial impact, and/or other facility specific requirements.

Hazard Analysis. A documented process to systematically identify the hazard of an operation, activity, facility, or process; to describe and analyze the adequacy of the measures taken to eliminate, control, or mitigate identified hazards; and to analyze and evaluate potential accidents and their associated risks.

Integrated. Full coordination between participating organizations, departments, and work groups.

Integrated Safety Management (ISM). A process required by DOE that is contractually imposed on affected organizations to develop and implement. Toward meeting that obligation, AMWTP has established an ISM policy that implements the five core functions and seven guiding principles DOE has set forth as the basis for the program. The process is described in PD-ISM-01, Integrated Safety Management System Program Description Document.

Industrial Safety / Industrial Hygiene (IS/IH). As used in this Program Description, the term comprehends all aspects of occupational Industrial Health and Safety programs normally associated with construction and general industrial work practices.

Standards. Federal, state, or local laws and regulations. The DOE, other federal agencies and national and international consensus standard organizations develop standards.

15.0 REFERENCES

- (1) 10 CFR 850, Chronic Beryllium Disease Prevention Program
- (2) 10 CFR 851, Worker Safety and Health Program
- (3) 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses
- (4) 29 CFR 1910, Occupational Safety and Health Standards
- (5) 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response
- (6) 29 CFR 1910.134, Respiratory Protection
- (7) 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout)
- (8) 29 CFR 1910.1200, Hazard Communication
- (9) 29 CFR 1926, Safety and Health Regulations for Construction

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

- (10) 29 CFR 1926.417, Lockout and Tagging of Circuits
- (11) ACGIH; Latest Edition, Industrial Ventilation: Manual of Recommended Practice
- (12) ACGIH; Latest Edition, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices
- (13) ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes
- (14) ANSI Z88.2, Respiratory Protection
- (15) ANSI Z136.1, Safe Use of Lasers (2000)
- (16) DOE G 440.1—8, Implementation Guide for Use with 10 CFR 851, Worker Safety and Health Program
- (17) DOE-ID-FPEQ-AMWTP-04-02, Equivalency Request for Annual Maintenance Testing on the AMWTP Water Mist Fire Protection Systems
- (18) DOE-ID-FPEQ-AMWTP-02-01, Transuranic Storage Area-Retrieval Enclosure Fire Protection Equivalency
- (19) DOE O 225.1A, Accident Investigations
- (20) DOE O 231.1A, Environmental Safety and Health Reporting
- (21) DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees
- (22) DOE O 5480.19, Conduct of Operations Requirements for DOE Facilities
- (23) LST-ISIH-02-IM, 10 CFR 851 Implementation Matrix
- (24) NFPA 70, National Electrical Code
- (25) NFPA 70E, Electrical Safety Requirements for Employee Workplaces
- (26) PD-ISIH-01, Industrial Safety/Industrial Hygiene Program Description
- (27) PD-ISM-01, Integrated Safety Management Program Description
- (28) RPT-ESH-049, Hydrogen Deflagration Mitigation Process

16.0 APPENDICES

Appendix A - 10 CFR 851 Safety Review Process

AMWTP PROGRAM DESCRIPTION		
PD-ISIH-06, Rev. 2	Issued: 05/08/07	Effective: 05/09/07
Worker Safety and Health Program		

**Appendix A
10 CFR 851 Safety Review Process**

