

WP 15-GM.03
Revision 3

Integrated Safety Management System Description

Tim Rotert	/	1/17/11
Manager, Safety and Health		Date

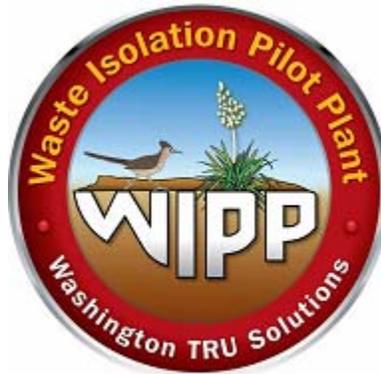


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CHANGE HISTORY SUMMARY

Revision Number	Date Issued	Change Description
3	1/19/11	Added descriptions of employee rights in Section 4.2, and employee responsibilities in Section 5.6. Updated references throughout.

ABBREVIATIONS AND ACRONYMS

AA	Authorization of Agreement
ALARA	As Low as Reasonably Achievable
CBFO	Carlsbad Field Office
CCE	Continuing Core Expectation
CCP	Central Characterization Project
CFR	Code of Federal Regulations
CH	Contact-Handled
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
DEAR	Department of Energy Acquisition Regulations
DOE	U.S. Department of Energy
DOE-EM	DOE Office of Environmental Management
DSA	Documented Safety Analysis
EDMS	Electronic document management system
EMS	Environmental Management System
HWFP	Hazardous Waste Facility Permit
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ISMSD	Integrated Safety Management System Description
ISSM	Integrated Safeguards and Security Management
MC	Management Charter
M&O	Management and Operating
MP	Management Policy
MSHA	Mine Safety and Health Administration
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
ORPS	Occurrence Reporting and Processing System
OSHA	Occupational Safety and Health Administration
PPE	Personal protective equipment
QA	Quality Assurance
QAPD	Quality Assurance Program Description
RH	Remote-Handled
S/RID	Standards/Requirements Identification Document
TRU	Transuranic

TSR	Technical Safety Requirements
USQ	Unreviewed safety question
VPP	Voluntary Protection Program
WIPP	Waste Isolation Pilot Plant
WTS	Washington TRU Solutions LLC
WTS WSHPD	WTS Worker Safety and Health Program Description

EXECUTIVE SUMMARY

This Integrated Safety Management (ISM) System (ISMS) Description (ISMSD) defines how Washington TRU Solutions LLC (WTS) systematically integrates safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is accomplished through the effective integration of environment, safety, and health management into all facets of work planning and execution. This ISMSD is applicable to and serves as an integral part of the company's business processes and includes all work conducted by WTS employees at any location, and for WTS employees and subcontractors working at the Waste Isolation Pilot Plant (WIPP) and other covered workplaces per WP 15-GM.02, WTS Worker Safety and Health Program Description (WTS WSHPD).

Safety-the requirement/expectation/demand-to ensure we all go home as healthy as we arrived.

This ISMSD explains WTS safety values, objectives, and approach for ensuring protection of the public, the worker, and the environment, consistent with U.S. Department of Energy (DOE) P 450.4, *Safety Management System*, and DOE M 450.4-1, *Integrated Safety Management System Manual*. The ISMSD describes how WTS conducts work following the seven ISM Guiding Principles, four Supplemental Safety Culture Elements, and the five ISM Core Functions. Finally, this document describes how WTS complies with the expectations of the DOE Carlsbad Field Office (CBFO) for establishing and maintaining a safety-conscious work environment throughout the organization.

The CBFO safety expectations for work performed by WTS include the following:

- Safety is the dominant characteristic and value. The ability to perform a job safely will not be compromised by production, budget, or schedule priorities. If a job cannot be performed safely, it will not be performed.
- Safety drives how we do business. The DOE ISMS is a systematic approach for selecting and incorporating the appropriate safety standards, necessary work controls, and expectation of continuous feedback/improvement. WTS employees will not accept shortcuts that circumvent safety or yield less than quality results. This systematic approach motivates a culture of personal responsibility by and for each employee.

The WIPP mission is to dispose of transuranic (TRU) waste in an environmentally sound and safe manner while exceeding customer expectations for reducing costs and accelerating schedules. WTS is under contract DE-AC29-01AL66444 with the CBFO for management and operation of the WIPP, and related characterization and transportation activities at several generator sites. WTS systematically integrates safety and environmental stewardship into management and work practices at all levels of the organization to accomplish the WIPP mission while protecting the worker, the public, and the environment.

The management of WTS is committed to ensuring that we each go home as healthy as we arrived, by providing exemplary safety and health programs, demanding and

maintaining the highest safety performance, and promoting employee involvement in the successful continuation of these programs.

The WTS safety culture is founded on the following Principles and Values.

- An environment where each employee instinctively feels responsible for safety
- Leaders/Management demonstrate commitment to safety
- Trust towards each other is a signature of the organization
- Decision-making ensures safety
- An inquisitive attitude and behavior towards challenging assumptions and considering potential adverse consequences of planned actions
- A disciplined safety (authorization) basis system is essential to ensuring that all hazards are identified and addressed before work begins
- Organizational learning is embraced
- Openly examining operations and soliciting feedback from external resources

WTS offers a work environment that fosters and encourages an open exchange of ideas. This includes raising safety concerns of differing opinions without fear of retaliation. It is fully expected that each WTS employee will raise safety issues and provide feedback for improving work processes.

WTS employees are expected to protect themselves and others against accidents. All accidents and incidents are considered preventable with an appropriate level of pre-planning. An accident/event-free workplace is achieved through careful planning, close attention to hazard controls, worker involvement in task planning, and stopping work in the face of uncertainty. The WTS staff maintains a high standard of safety and quality excellence and operational achievement for the WIPP mission. WTS management is expected to continue that tradition of excellence by promoting and enforcing safety expectations throughout the work environment.

1.0 INTRODUCTION ^{1, 2, 3}

WTS is under contract with the CBFO for the management and operation of WIPP. The scope includes coordinating waste characterization activities at the respective generator sites to ensure consistent delivery of waste for disposal to meet the nation's cleanup goals. The scopes for the generator site characterization activities are defined in Prime Contract DE-AC29-01AL66444, in generator site memorandums of understanding and interface agreements, or occasionally in subcontracts. Redundant worker protection programs have been established at the sites to establish an effective worker safety and health program that will reduce or prevent injuries, illnesses, and accidental losses by providing workers and subcontractors with a safe and healthful workplace. WTS safety and health programs and processes ensure hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are adequately protected from identified hazards. The coordination of those functions with the host sites is addressed in WP 15-GM.02, which is specific to defining the processes to achieve safe and healthful workplaces per Title 10 *Code of Federal Regulations* (CFR) Part 851, "Worker Safety and Health Program." This document, the ISMSD, focuses on the management systems that ensure that safety is integrated in all aspects of work from planning to field activities in compliance with the statutes enacted by Congress for the protection of workers, the public, and the environment. This document describes the WTS processes to fulfill this commitment in accordance with the five ISM Core Functions, the seven ISM Guiding Principles, and the four Supplemental Safety Culture Elements that have been deemed vital for ensuring the safe conduct of work.

This ISMSD has three areas of focus: (1) defines the WTS management systems to identify ISM execution; (2) describes the WTS work activities within the ISM envelope; and (3) describes how WTS measures ISM effectiveness and ensures continuous improvement.

2.0 PURPOSE AND OBJECTIVES

WTS views this ISMSD as the primary, all-encompassing road-map for accomplishing work in a safe and environmentally sound manner. This ISMSD defines the integral role of safety in WTS business approach, processes, and financial management control systems. WTS integrated Quality Assurance (QA) and the Environmental Management System (EMS) into the ISMS, as delineated in DOE O 414.1C, *Quality Assurance*, and DOE O 450.1A, *Environmental Protection Program*. (Note: In ISM, the term safety is used synonymously with environment, safety, and health to encompass protection of the public, the workers, and the environment. It also comprises all safety, health, and environmental disciplines, (i.e., radiation protection, fire protection, nuclear safety, nuclear criticality safety, environmental protection, pollution prevention, waste management, environmental management, industrial hygiene, industrial safety, and occupational health).

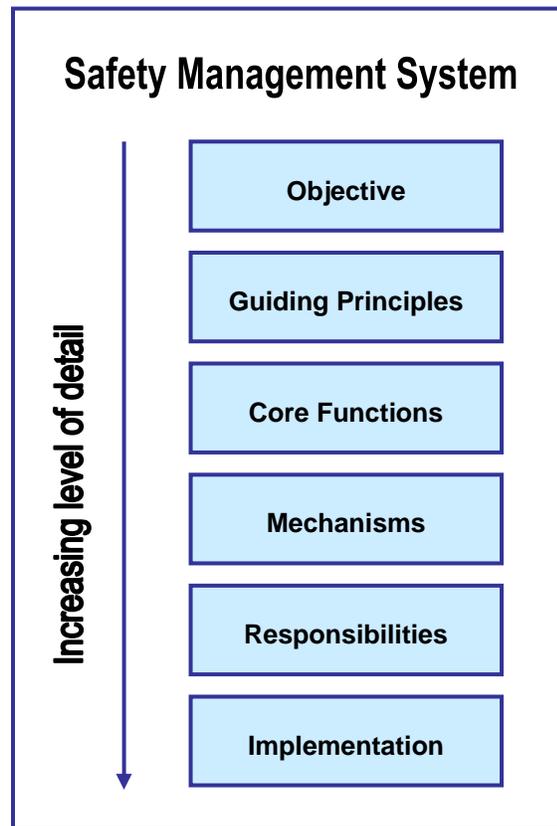
This ISMSD also describes WTS responsibilities for, and the approach to, implementing the ISMS Objective, Core Functions, and Guiding Principles established in DOE P 450.4, *Safety Management System Policy*, in all aspects of work. These implementing Mechanisms encompass the system of policies, plans, and procedures that establish the WTS responsibilities and methods for implementing each ISMS Guiding Principle and Core Function.

The objective of the WTS ISMS is to systematically integrate safety into management and work practices at all levels, so that the mission is accomplished while protecting the public, the workers, and the environment. WTS accomplishes this objective through effective integration of safety management into all facets of work planning and execution. Effective management of safety functions and activities is an integral WTS expectation of mission accomplishment.

3.0 ISMS OVERVIEW

The DOE established the approach to integrating safety into all aspects of work at its facilities in DOE P 450.4. The policy describes the safety management system as consisting of six components: (1) the Objective, (2) Guiding Principles, (3) Core Functions, (4) Mechanisms, (5) Responsibilities, and (6) Implementation (see Figure 1). The Objective, Guiding Principles, and Core Functions of safety management are consonant with those used consistently in implementing safety management throughout

Figure 1 – ISMS COMPONENTS



the DOE complex and are described in the following sections. The Mechanisms, Responsibilities, and Implementation components that are unique to the WIPP are established according to the type of work and hazards associated with that work. WTS ISMS Mechanisms, Responsibilities, and Implementation components are fully described in Section 6.0.

3.1 Safety Management Guiding Principles

The following Guiding Principles are fundamental policies that guide WTS actions, from development of plans and procedures to the conduct of work:

1. Line Management Responsibility for Safety: Line Management is directly responsible and accountable for protection of the worker, the public, and the environment.
2. Clear Roles and Responsibilities: Clear and unambiguous lines of authority and responsibility for ensuring that safety are established and maintained at all organizational levels.
3. Competence Commensurate with Responsibilities: Personnel possess the experience, knowledge, skills, and abilities necessary to discharge their responsibilities.
4. Balanced Priorities: Resources are effectively allocated to address safety and programmatic and operational considerations. Protecting the workers, the public, and the environment is a priority whenever activities are planned and performed.
5. Identification of Safety Standards and Requirements: Before work is performed, the associated hazards are evaluated, and an agreed-upon set of safety standards and requirements are established and properly implemented, that provide adequate assurance that the workers, the public, and the environment are protected from adverse consequences.
6. Hazard Controls Tailored to Work Being Performed: Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards.
7. Operations Authorization: The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed upon.

Based on more than ten years of experience with developing and implementing ISMS programs across the complex, the DOE has established the following four Supplemental Safety Culture Elements to be used in concert with ISM Guiding Principles to enhance the effective implementation of ISMS. WTS has implemented these Supplemental Safety Culture Elements accordingly.

1. Individual Attitude and Responsibility for Safety

Integrated Safety Management System Description

Every individual accepts responsibility for safe mission performance. Individuals demonstrate a questioning attitude by challenging assumptions, investigating anomalies, and considering potential adverse consequences of planned actions. All employees are mindful of work conditions that may impact safety, and assist each other in preventing unsafe acts or behaviors.

Figure 2 – Principles and Functions

Guiding Principles and Core Functions



2. Operational Excellence

Organizations achieve sustained, high levels of operational performance, encompassing all the DOE and contractor activities to meet mission, safety, productivity, quality, environmental, and other objectives. High reliability is achieved through a focus on operations, conservative decision-making, open communications, deference to expertise, and systematic approaches to eliminate or mitigate error-likely situations.

3. Oversight for Performance Assurance

Competent, robust, periodic, and independent oversight is an essential source of feedback that verifies expectations are being met and identifies opportunities for improvement. Performance assurance activities verify whether standards and requirements are being met. Performance assurance through conscious, directed, independent reviews at all levels brings fresh insights and observations to be considered for continuous safety and performance improvement.

4. Organizational Learning for Performance Improvement

The organization demonstrates excellence in performance monitoring, problem analysis, solution planning, and solution implementation. The organization encourages openness and trust, and cultivates a continual learning environment.

3.2 Safety Management Core Functions

The five ISM Core Functions established in DOE P 450.4 provide the necessary structure for work activity that poses a hazard to the public, workers, and the environment. The functions are applied as a continual cycle, with a degree of rigor appropriate to control the work hazards. The five Core Functions upon which the WTS ISMS is developed are:

1. Define the Scope of Work: Missions are translated into work, expectations are set; tasks are identified and prioritized; and resources are allocated.
2. Analyze the Hazards: Hazards associated with the work are identified, analyzed, and categorized.
3. Develop and Implement Hazard Controls: Applicable standards and requirements are identified and agreed upon; controls to prevent or mitigate hazards are identified; the safety envelope is established; and controls are implemented.
4. Perform Work within Controls: Readiness is confirmed and work is performed safely.
5. Provide Feedback and Continuous Improvement: Feedback information on the adequacy of controls is gathered; opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted; and, if necessary, regulatory enforcement actions occur.

4.0 WTS MANAGEMENT COMMITMENTS AND EXPECTATIONS

The management of WTS is committed to ensuring that we each go home as healthy as we arrived, by providing exemplary safety and health programs, demanding and maintaining the highest safety performance, and promoting employee involvement in the successful continuation of these programs. WTS recognizes that the success in meeting this commitment is contingent upon a strong safety culture.

A strong safety culture is highly dependent on a learning environment. WTS operates multiple learning and communication processes to capture and share project and safety knowledge. The WTS safety and learning culture has three distinctive elements:

1. Organizational safety culture: The sum of the organization's knowledge and ability to learn in support of the mission.
2. Nuclear safety culture: WTS manages nuclear safety functions as identified and works with the CBFO to establish the safety basis for the Authorization of Agreement (AA). Focus is placed on the culture aspects to ensure compliance with the analyzed safety envelope, and provide appropriate worker protection. .
3. Worker safety culture: A safety conscious work environment where workers raise issues without fear of reprisal.

Good leadership and a culture of trust throughout the organization are key ingredients for an open learning atmosphere. WTS safety culture represents the sum of the organization's learning as it deals with lessons learned, assessments, issues, and continuous improvement.

4.1 Management Commitments

With the commitment to provide exemplary safety and health programs, the WTS management team establishes and implements management systems that ensure this work is performed safely by all, including subcontractors, in a safety-conscious work environment. Management commitment also includes demanding and maintaining the highest safety performance at all levels, including subcontractors and sub-tier subcontractors. In conjunction with that commitment, the WTS management team has established a Zero Injury goal, and focuses on controlling hazards accordingly by:

- Leading by example, placing safety first at all times to achieve a safety-conscious work environment and incident-free workplace.
- Recognizing that safety is a collective responsibility and each manager must create an atmosphere where each worker has a personal responsibility for improving work processes.
- Establishing written policies, goals, and performance objectives for the worker safety and health program.
- Monitoring performance measures to ensure that objectives and goals are met.
- Using qualified worker safety and health staff to direct and manage the safety program. This same staff provides subcontractor safety oversight and interfaces with host site worker safety and health staff to ensure appropriate safety oversight of characterization activities at the host sites.
- Assigning worker safety and health program responsibilities, evaluating personnel performance, and holding personnel accountable for worker safety and health performance.
- Establishing procedures and processes for workers to report without reprisal job-related safety issues and providing support for the Stop Work Policy which permits workers, including subcontractors to stop work or decline to perform an assigned task because of a reasonable belief that the task poses an imminent risk to safety of personnel.
- Maintaining an ISMS that ensures compliance with 10 CFR Part 851, while providing the foundation necessary for a safety culture strong enough to maintain the Voluntary Protection Program (VPP) STAR level program, and the programmatic excellence in safety programs to continue to excel in safety in the DOE complex.
- Supporting key attributes essential for Human Performance Improvement.

- Supporting key attributes demonstrating a high reliability organization.
- Monitoring and assessing safety performance, and requiring the completion of corrective actions in a timely manner.
- Maintaining excellence in Operating Experience Program (lessons learned) to ensure that the program provides appropriate lessons learned and input in the quest for continuous improvement as a learning organization.
- Supporting employee rights per 10 CFR Part 851, and DOE VPP STAR sites rights, as discussed in Section 4.2.

4.2 Management Expectations

The following are WTS management expectations for each employee.

- To maintain a questioning and inquisitive attitude
- To have a willingness to pause, ask questions, gather additional data, and obtain answers, rather than proceed in the face of uncertainty
- To raise concerns and issues directly to management and/or the safety department, or submit a WIPP Form,
- To assist in achieving excellence by following procedures and not be complacent with meeting minimally compliant standards
- To implement the worker right and responsibility to stop work when the worker discovers potential exposures to imminently dangerous conditions
- To know their rights, which include;
 - The right to participate in activities described in this section on official time;
 - Have access to:
 - ▶ DOE safety and health publications;
 - ▶ The worker safety and health program for the covered workplaces
 - ▶ The standards, controls, and procedures applicable to the covered workplace
 - ▶ Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions and
 - ▶ Limited information from the DOE Form 5484.3 (the DOE equivalent to OSHA Form 301)

- Be notified when monitoring results indicate the worker was overexposed to hazardous materials;
- Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring
- Have a representative authorized by employees accompany the Director (at WIPP, this is the CBFO Manager) or their authorized personnel during the physical inspection of the workplace for the purpose of aiding the inspection. When no authorized employee representative is available, the Director or his authorized representative must consult, as appropriate, with employees on matters of worker safety and health.
- Request and receive results of inspections and accident investigations;
- Express concerns related to worker safety and health;
- Decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker coupled with a reasonable belief that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures; and
- Stop work when the worker discovers employee exposure to imminently dangerous conditions or other serious hazards; provided that any stop work authority must be exercised in a justifiable and responsible manner in accordance with procedures established in the approved worker safety and health program.
- Be aware of VPP Rights as you are working at a DOE VPP STAR site. These include;
 - ▶ To file a notice of hazardous condition with management without fear of reprisal.
 - ▶ To receive a timely response to any notice of hazard filed.
 - ▶ To exercise their duties in the Safety and Health program with protection from any form of discrimination including harassment.
 - ▶ To have access to results of self-audits, appraisals, and accident investigations (in no way diminishes employee's right to file a complaint with DOE at anytime over any unresolved issues or unsafe conditions).

5.0 ROLES AND RESPONSIBILITIES

As the management and operating (M&O) contractor for the CBFO, WTS is responsible for the timely execution of the WIPP mission. While accomplishing this mission, protection of the environment, the public, and the safety and health of employees is the

number one priority for the conduct of operations. WTS conducts nuclear safety, industrial safety, occupational health, environmental protection, and emergency management activities in compliance with the requirements and intent of applicable federal, state, and local regulations and procedures. Among the drivers are requirements of the DOE, the Occupational Safety and Health Administration (OSHA), the Mine Safety and Health Administration (MSHA), the U.S. Environmental Protection Agency, and the New Mexico Environment Department (NMED). Policies, programs, and procedures flow from these drivers.

WTS safety programs protect the worker, the public, and the environment while providing flexibility to meet business needs. WTS emphasizes, through policy and training, the individual responsibility of all employees to perform work in a safe, efficient, and environmentally responsible manner.

WTS is committed to the safety and health of their workforce. The WTS safety management responsibilities are clearly defined in the WTS Management Policy (MP) 1.28, Integrated Safety Management; and Section 6.0 of this ISMSD. Additional safety management responsibilities, including responsibilities shared with host sites for WTS characterization activities, are further defined in WP 15-GM.02 in accordance with 10 CFR Part 851. These management responsibilities include, but are not limited to, the following:

5.1 General Manager

- Assuring that managers are responsible for WTS implementation of ISM at all sites.
- Assuring that department managers understand their roles and responsibilities in implementing procedures that implement safety standards and requirements.
- Communicating routinely with department managers to identify barriers to achieving safety standards and requirements, and taking corrective actions to remove barriers.

5.2 Department Managers

- Assuring that line managers understand their roles and responsibilities in implementing procedures that implement safety standards and requirements.
- Communicating routinely with line managers to identify barriers to achieving safety standards and requirements, and taking corrective actions to remove barriers.
- Performing field observations and communicating directly with employees to assess the effectiveness of the line managers in applying division safety standards and requirements.

5.3 Safety and Health Department Manager

- Overseeing the ISMS program integration into all aspects of planning and work performed.
- Determining annually the effectiveness of the WIPP ISMS.
- Maintaining the ISMSD.
- Measuring and monitoring work results to assess the effectiveness of safety procedures and their implementation in achieving anticipated results.

5.4 Line Managers

- Assuring that employees possess the experience, knowledge, skills, and abilities to perform the work.
- Assuring that employees understand and comply with approved procedures that implement safety standards and requirements and their roles in implementing the procedures.
- Communicating routinely with employees, providing them with the opportunity to identify barriers to achieving safety standards and requirements, and taking corrective actions to remove these barriers.
- Performing field observations to assess the adequacy of safety-related actions in approved procedures.
- Providing appropriate acknowledgement, recognition, and reward as appropriate for demonstrated safe, responsible behavior.

5.5 Subcontract Technical Representatives

- Ensuring that environment, safety, and health requirements pertinent to the work scope in the requests for proposal are clearly specified including the 10 CFR Part 851 implementation requirements in WP 15-GM.02.
- Ensuring that safety and environmental professionals review and approve all safety aspects before the start of any project.
- Ensuring that the subcontractors providing work on the WIPP site and covered workplaces are conducting work in accordance with WTS specific safety procedures and the subcontract's scope of work.
- Providing oversight of the subcontractor performance of work, as delineated in WP 15-PC3608, Subcontract Technical Representative Responsibilities,.

5.6 Each WTS Employee

- Understanding and complying with approved procedures that implement safety standards and requirements for nuclear, industrial, and occupational health and safety, environmental protection, and emergency management.
- Identifying conditions that may impede implementing safety aspects of approved procedures.
- Initiating actions to correct these conditions, including stopping the work, if necessary.
- Possessing the experience, knowledge, skills, and abilities to discharge responsibilities.

Additional safety program expectations include the following cultural controls that are each employee's responsibility.

- Employees have the responsibility to make sure that they go home as healthy as they arrived, and that coworkers do too.
- Arrive ready for work and fit for duty.
- Review work area for hazards.
- Conduct appropriate pre-use equipment inspections.
- Know the hazards and controls for assigned tasks.
- Exercise authority to stop work when the situation arises.
- Use a questioning attitude as the error-prevention tool it is; the employee is the first line of defense.
- Expect/Demand safety
- Follow safety rules
- Do not commit unsafe acts, take shortcuts, etc.
- Report concerns/issues by contacting their manager or the Central Monitoring Room, reporting to the Safety Hotline, or using the WIPP Form/Issues Management process or employee concerns process (including reporting first-aids, incidents, close calls, etc.). This can prevent it from happening again with worse consequences.
- Follow administrative controls (procedures, processes, etc.); know work package tasks; use disciplined operations.
- Keep training current.

- Check PPE before use.
- Watch for others.

6.0 IMPLEMENTATION OF ISM

This ISMSD provides the methods and activities WTS employs to manage and oversee the systematic integration of safety into management and work practices in all facets of work planning and execution so that missions are accomplished while protecting the worker, the public, and the environment. This results in the overall management of safety functions and activities becoming an integral part of mission accomplishment.

6.1 ISM Principles and Safety Culture Elements

The benefit of the ISM Principles (seven original plus four Supplemental Safety Culture Elements) and the Core Functions is improved safety awareness and corporate operations. The Principles establish an expected set of behaviors and disciplines for eliminating unsafe practices and accidents. This section describes the WTS implementation of the ISM Principles and Core Functions, the management systems used to execute the desired safety integration, the expected organizational attributes and outcomes, and the implementing policies and procedures.

The WTS management systems are the primary instrument for implementing the safety Principles at the facility and work activity levels. The management systems (also referred to as programs and plans) define the practices, techniques, and tools used by WTS to meet the project requirements. The WTS management systems are progressive. The systems are adjusted over time to accommodate new requirements, lessons learned, and feedback for improvement. As such, the systems discussed in this section are being enhanced along with the ISMSD.

The following is a partial list of WTS management systems used to execute the ISMS. Not all of the following management systems are assigned to a specific Principle or Core Function. However, the integration of these management systems provides the overall functional foundation for an effective ISM and is a component of each Principle. These management systems incorporate regulatory requirements, such as 10 CFR Part 851, the DOE directives, and New Mexico State regulations, as well as specific safety standards (such as the American National Standards Institute and National Fire Protection Association) in accordance with the WTS Safety/Requirements Identification Document (S/RID) process, the WTS M&O contract with the CBFO, and best management practices. Integration of the management systems listed provides the overall foundation necessary for a successful ISM program.

Management Systems

Authorization Basis	Occupational Health
Causal Analysis and Corrective Action Program	Occurrence Reporting
	Operating Experience Program

Characterization Activities	Procurement
Conduct of Operations	Project Controls and Baseline Management
Configuration Management	Project Management
Construction Management	QA
Contractor Assurance Program	Quality Control Radiation Protection
Documented Safety Analysis Electrical Safety	Security
Emergency Management	S/RID process
Engineering Program	Subcontractor Safety Program
Environmental Protection	Technical Safety Requirements (TSRs)
Facility Operations	Technical Training Program
Fire Protection	Transportation
Human Performance Improvement	Unreviewed Safety Questions
Human Resource Management	Vital Safety Systems
Industrial Hygiene	VPP Program
Industrial Safety	Waste Handling
Issues Management Program	Waste Management
WTS WSHP	Work Control
Maintenance	Worker Protection Program
Nuclear Criticality Safety	

6.1.1 Principle 1: Line Management Responsibility for Safety

Line management is directly responsible for the protection of the public, the workers, and the environment. WTS develops and implements effective management systems to ensure line management is directly responsible and understands and accepts their safety responsibilities inherent in mission accomplishment, for the protection of the public, the workers, and the environment. Safety performance elements are incorporated into management performance plans and evaluations for all managers and

safety professionals. Overall safety performance is monitored, assessed, and reported to senior management in monthly reviews.

Objectives and Attributes

WTS Line Managers:

- Lead by example and understand and accept their safety responsibilities.
- Demonstrate a commitment to safety, maintaining a strong focus on the safe conduct of work activities.
- Are visible in the work areas.

WTS Managers:

- Have a clear understanding of work activities and objectives.
- Practice visible leadership by coaching, mentoring, conducting or managing regular safety meetings, performing safety reviews and reinforcing standards.
- Participate in regular reviews with senior WTS management to maintain corporate awareness.

System Policies, Procedures, and Other Implementing Documents

- DOE/WIPP-04-3310, *WIPP Environmental Policy Statement*
- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *WIPP Technical Safety Requirements*
- Respective generator site health and safety plans for areas where WTS performs characterization work
- CCP-PO-005, CCP Conduct of Operations
- CCP-QP-018, CCP Management Assessments
- CCP-QP-021, CCP Surveillance Program
- Form 31215C, WTS Exempt Position Description
- MP 1.12, Worker Protection Policy
- MP 1.20, Management Assessments

- MP 1.21, Management Responsibility and Accountability
- MP 1.28, Integrated Safety Management
- MP 1.52, Just Culture Management Policy
- WP 02-EC.12, Site Users Guide for Organizations, Personnel, or Companies That Perform Work on U.S. Department of Energy Property or Rights-of-Way on or Around the Waste Isolation Pilot Plant Site
- WP 04-CO.01, Conduction of Operations
- WP 04-CO.01-1, Conduct of Operation Program, Operations Organization and Administration
- WP 10-2, Maintenance Operations Instruction Manual
- WP 12-2, WIPP ALARA Program Manual
- WP 12-5, WIPP Radiation Safety Manual
- WP 12-9, WIPP Emergency Management Program
- WP 12-FP.01, Fire Protection Program
- WP 12-IH.02, WIPP Industrial Hygiene Program Manual
- WP 12-IS.01, Industrial Safety Program - Structure and Management
- WP 12-IS.01-8, Industrial Safety and Hygiene - Vehicle Safety
- WP 12-IS3002, Job Hazard Analysis Development
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-GM.02, WTS Worker Safety and Health Program Description
- WP 15-HS.01, OSHA Bloodborne Pathogens Exposure Control Plan

6.1.2 Principle 2: Clear Roles and Responsibilities

Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels within the company and flows down requirements to establish clear roles and responsibilities with its subcontractors. Clearly defined roles and responsibilities are required components for all proceduralized processes and management systems in WTS, including subcontractor's statements of work.

Attributes

- The lines of authority and responsibility for safety are defined and clearly understood as an integral part of performing work.
- Organizational safety responsibilities are sufficiently comprehensive to address the work activities and hazards involved.
- Ownership boundaries and authorities are clearly defined at the institutional, facility, and activity levels, and interface issues are actively managed.
- Employees understand their job responsibilities, objectives, authorities, and areas of required training.
- Employees understand the importance of adhering to safety standards.
- Responsibility and authority for safety are well-defined, understood, and integral to work scope performance.
- Employees are held accountable for meeting standards and expectations to fulfill safety responsibilities.

System Policies, Procedures, and Other Implementing Documents

- DOE/WIPP-04-3310, *WIPP Environmental Policy Statement*
- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- DOE/WIPP-95-2054, *Waste Isolation Pilot Plant Radiation Protection Program*
- Prime Contract No. DE-AC29-01AL66444 for Management and Operation of the Waste Isolation Pilot Plant
- Work authorization documents and statements of work
- Respective generator site health and safety plans for areas where WTS performs characterization work
- CCP-PO-005, CCP Conduct of Operations
- Form 28266F, WTS Salary Position Description for Non-Exempt
- Form 31215C, WTS Exempt Position Description

- MC 6.3.3, Electrical Safety Committee
- MC 6.10, Surface Management Council
- MC 9.4, Radiological ALARA Committee
- MC 9.5, Nuclear Review Board
- MC 9.8, Configuration Management Board
- MC 9.18, Pollution Prevention Committee
- MC 9.24, Underground Working Group
- MC 9.26, Safety Awareness Committee
- MP 1.2, Work Suspension and Stop-Work Direction
- MP 1.12, Worker Protection Policy
- MP 1.20, Management Assessments
- MP 1.21, Management Responsibility and Accountability
- MP 1.28, Integrated Safety Management
- MP 1.29, Missions, Goals, and Responsibilities
- MP 1.41, Issues Management WIPP Form
- WP 02-EC.12, Site Users Guide for Organizations, Personnel, or Companies That Perform Work on U.S. Department of Energy Property or Rights-of-Way on or Around the Waste Isolation Pilot Plant Site
- WP 04-CO.01, Conduction of Operations
- WP 04-CO.01-1, Conduct of Operation Program, Operations Organization and Administration
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 09, Engineering Conduct of Operations
- WP 10-2, Maintenance Operations Instruction Manual
- WP 12-5, WIPP Radiation Safety Manual
- WP 12-9, WIPP Emergency Management Program
- WP 12-ER3004, WIPP Drills and Exercises

- WP 12-FP.01, Fire Protection Program
- WP 12-HP3600, Radiological Work Permits
- WP 12-IH.02, WIPP Industrial Hygiene Program Manual
- WP 12-IS.01, Industrial Safety Program - Structure and Management
- WP 12-IS3002, Job Hazard Analysis Development
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 14-TR.01, WIPP Training Program
- WP 15-HS.01, OSHA Bloodborne Pathogens Exposure Control Plan

6.1.3 Principle 3: Competence Commensurate with Responsibilities

Personnel possess the experience, knowledge, skill, and abilities necessary to discharge their responsibilities.

WTS employs professionals in industrial safety, industrial hygiene and nuclear safety on the staff, including Certified Safety Professionals (CSPs), Certified Industrial Hygienists (CIHs), Certified Health Physicists (CHPs), and Professional Engineers (PEs). These professionals ensure that work processes, policies, and procedures are built on a defensible foundation. They prepare policy, determine requirements, review and approve work plans and packages, and perform oversight inspections.

WTS provides resources for staff development. WTS has processes to ensure that personnel are qualified in their areas of responsibilities. WTS managers delegate authority based on competence. To ensure that personnel possess the experience, knowledge, skill, and abilities necessary to discharge their responsibilities, WTS has implemented effective human resource management systems which identify needed skills, evaluate the employees' skills, identify skill gaps, and arrange for training to eliminate the gaps. WTS encourages professional certification and supports education and certification fees that include, but are not limited to CSPs, CIHs, CHPs, and PEs.

Training for all personnel is recognized as a vital requirement to incorporate safety into all aspects of work. Formal training programs including on the job training tasks overseen by a subject matter expert, are conducted under the auspices of the WTS Technical Training Program meeting DOE O 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*, requirements to ensure the safety of the workers, public, and the environment. Accordingly, managers are required to ensure that employees training and qualifications are maintained at all times in accordance with the Training Implementation Matrix and the Hazardous Waste Facility Permit (HWFP). Safety is an integral part of that training and qualification.

Attributes

- WTS recognizes that employees are their most valuable asset and has a robust training program.
- WTS training ensures that technical capabilities are current for the employees.
- Key resources are recruited, selected, and retained within the organization.
- Continuous learning is a sustained value through definitive training and qualification programs.
- Assignments and delegations of safety responsibilities are made to individuals with the necessary technical expertise and experience.
- Training upholds management standards and expectations.
- Managers set an example for safety through their personal commitment to continuous learning and by their direct involvement in high-quality training that consistently reinforces expected worker behaviors.

System Policies, Procedures, and Other Implementing Documents

- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- DOE/WIPP-95-2054, *WIPP Radiation Protection Program*
- CCP-QP-002, CCP Training and Qualification Plan
- CON-011, Subcontract Technical Representative
- CON-011A Subcontract Technical Representative Refresher
- Form 28266F, WTS Salary Position Description for Non-Exempt
- Form 3121 5C, WTS Exempt Position Description
- MC 9.4, Radiological ALARA Committee
- MC 9.5, Nuclear Review Board
- MC 9.8, Configuration Management Board
- WP 04-CO.01-5, Conduct of Operations Program, Control of On-Shift Training
- WP 09, Engineering Conduct of Operations
- WP 12-5, WIPP Radiation Safety Manual

- WP 12-9, WIPP Emergency Management Program
- WP 12-ER3004, WIPP Drills and Exercises
- WP 12-HP3600, Radiological Work Permits
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 14-TR.01, WIPP Training Program
- WP 14-TR3008, Table-Top Analysis and Design
- WP 14-TR3301, Administrative Review Board
- WP 14-TR3307, Qualifications Programs
- WP 14-TR3308, On-the-Job Training

6.1.4 Principle 4: Balanced Priorities

An effective ISMS requires that resources be appropriately allocated to address safety, programmatic, and operational considerations. Protecting the public, workers, and the environment shall be a priority when work activities are planned and performed.

WTS follows the priorities set in contract negotiations and is directly involved in the annual budget preparation to acquire and allocate the necessary funds to implement its mission and ensure safety. The top priority is the conduct of compliant and safe operations. The CBFO both sets priorities and communicates them to WTS senior management. The CBFO annually reviews the WIPP mission needs and adjusts to the budget management concerns and safety priorities affecting the program. WTS works with the CBFO counterparts to ensure appropriate allocation of resources to address safety, programmatic, and operational considerations. WTS participates in the CBFOs monthly and quarterly project and program reviews to assess technical, cost, schedule, and safety performances. Safety and quality requirements are incorporated into acquisitions. WTS management ensures that the technical reviews of capital projects with the CBFO consider safety requirements and conditions. WTS annually reviews the WIPP program needs and requests adjustments to the budget as necessary to address concerns and safety priorities affecting the program. Activities needed to protect the public, workers, and the environment are funded as a top priorities.

Attributes

- WTS managers frequently and consistently communicate the safety message, both as an integral part of the mission and as a stand alone theme.
- WTS managers recognize that aggressive mission and production goals can appear to send mixed signals on the importance of safety. Managers are

sensitive to detect and avoid these misunderstandings, or to deal with them effectively if they arise.

- WTS demonstrates a strong sense of mission and operational goals, including a commitment to highly reliable operations, both in production and safety. Safety and productivity are both highly valued.
- Safety, productivity, and quality concerns receive balanced consideration in funding allocations and schedule decisions. Resource allocations are adequate to address safety.
- Staffing levels and capabilities are consistent with the expectation of maintaining safe and reliable operations.
- The Safety and Health Department staffing provides sufficient depth and redundancy to ensure that all important safety functions are adequately performed.
- Safety and QA positions have adequate organizational influence.
- Adequate resources are allocated for safety upgrades and repairs to aging infrastructure. Modern infrastructure and new facility construction are pursued to improve safety and performance over the long term.

System Policies, Procedures, and Other Implementing Documents

- DOE/WIPP-02-3212, *Ground Control Annual Plan for the Waste Isolation Pilot Plant*
- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- CCP-QP-001, CCP Graded Approach
- Integrated Comprehensive Asset Management Planning Report
- Plan of the Day Meeting
- DOE/WIPP-04-3297, *Carlsbad Field Office and Washington TRU Solutions LLC Executive Safety Council Charter*
- Work control processes and prioritizations
- Validation and program planning cycle guidance
- MC 1.11, American Recovery and Reinvestment Act 2009 Integration Project

- MP 1.20, Management Assessments
- WP 02-EC.13, Environmental Assessment Plan
- WP 04-CO.01, Conduct of Operations
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 09-CN3005, Graded Approach to Application of QA Controls
- WP 09-CN3023, Functional Classification Determination for Design
- WP 09-CN3024, Configuration Management Board/Engineering Change Proposal
- WP 12-ER3004, WIPP Drills and Exercises
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-3, Program Execution Plan
- WP 15-FC.01, Washington TRU Solutions LLC Programmatic Change Control Process
- WP 15-PC3609, Preparation of Purchase Requisitions
- WP 15-PC3042, Credit Card Purchases

6.1.5 Principle 5: Identification of Safety Standards and Requirements

An effective safety management system requires that before work is performed, associated hazards are evaluated, and safety standards and requirements are established. Safety standards and requirements should provide adequate assurance that if they are properly implemented, the public, workers, and environment will be protected from adverse consequences.

The CBFO communicates to WTS applicable DOE directives, including the DOE Office of Environmental Management (DOE-EM) supplements as needed, through the contract process. This includes the identification of safety standards and requirements as contained in the DOE directives contained as List B. The WTS contract does not include a specific "List A" of other regulatory drivers. WTS is expected to comply with all applicable laws and regulations. WTS meets 10 CFR Part 851 incorporated and referenced safety standards and requirements and, in addition, maintained an S/RID process for the additional identification and implementation of safety requirements.

WTS performs safety reviews/self-assessments and gap analyses to ensure compliance with the requirements of 10 CFR Part 851, the MSHA safety standards, the U.S. Environmental Protection Agency regulations, and the OSHA standards, as well as

other regulatory compliance assessments, including the DOE directives related to safety.

WTS responds to additional safety requirements to manage critical safety functions as identified and works with the CBFO to establish the safety basis for the Authorization of Agreement (AA). Appropriate safety standards and requirements are incorporated in subcontractor statement of work, specifically 10 CFR Part 851 safety requirements for subcontractor work performed in covered workplaces.

Attributes

- Facilities are designed, constructed, operated, maintained, and decommissioned using consensus industry codes and standards, where available and applicable, to protect workers, the public, and the environment.
- Applicable requirements from laws, statutes, rules and regulations are identified and captured so that compliance can be planned, expected, demonstrated, and verified.
- A clearly defined set of safety requirements and standards is invoked in the contract, and in the interface agreements for Central Characterization Project (CCP) scope of work. An accepted process is used for identification of the appropriate set of requirements and standards. This set of requirements is comprehensive and includes robust QA, safety, and radiological and environmental protection requirements.
- Implementing plans, procedures, and protocols are in place to translate requirements into action for new or changed requirements.
- Technical and operational safety requirements clearly control the safe operating envelope.
- Clearly established technical safety directives are enabled and implemented at WIPP.
- Clearly defined safety requirements are incorporated into WTS subcontracts for operation and construction activities.
- Exemptions from applicable TSRs are both rare and specific, providing an equivalent level of safety, and must have a compelling technical basis.
- Compliance with applicable safety and technical requirements is expected and verified.
- Willful violations of requirements are rare, and personnel and organizations are held strictly accountable in the context of a just culture. Unintended failures to follow requirements are promptly reported, and personnel and organizations are given credit for self-identification and reporting of errors.

- WTS actively seeks continuous improvement to safety standards and requirements through identification and sharing of effective practices, lessons learned, and applicable safety research. WTS is committed to continuously rising standards of excellence.

System Policies, Procedures, and Other Implementing Documents

- NM 4890139088-TSDF, Hazardous Waste Facility Permit
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the WIPP*
- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- MC 9.8, Configuration Management Board
- Participation with the CBFO in the correct determination of List B requirements, DEAR contract clause 970.5204
- Respective generator host sites' Documented Safety Analyses
- Respective generator host sites TSRs
- SDD Series
- S/RID process
- WP 02-EC.08, National Environmental Policy Act Compliance Plan
- WP 02-EC.13, Environmental Assessment Plan
- WP 02-EC3801, Environmental Compliance Review
- WP 04-CO.01-16, Conduct of Operations Program, Operations Procedures
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 09-11, WTS Configuration Management Plan
- WP 09-CN3007, Engineering and Design Document Preparation and Change Control
- WP 09-CN3018, Design Verification
- WP 09-CN3024, Configuration Management Board/Engineering Change Proposal

- WP 09-CN3035, CMS Software Configuration
- WP 12-2, WIPP ALARA Program Manual
- WP 12-3, Dosimetry Program
- WP 12-5, WIPP Radiation Safety Manual
- WP 12-IH.02, Industrial Hygiene Program Manual
- WP 12-IS.01, Industrial Safety Program - Structure and Management
- WP 12-IS.01-6, Visitor, Vendor, and Subcontractor Safety Controls
- WP 12-IS3002, Job Hazard Analysis Development
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-GM.02, WTS Worker Safety and Health Program Description
- WRES Compliance Matrix

6.1.6 Principle 6: Hazard Controls Tailored to Work Being Performed

An effective safety management system requires that administrative and engineering controls designed to prevent and mitigate hazards be tailored to the work being performed and the associated hazards.

WTS has a rigorous hazard identification program maintained by Nuclear Safety that includes providing a basis for hazards surveys used for safety analysis, emergency planning, and work planning. This Principle was evident in all aspects of evaluation and work performed for the Documented Safety Analysis. The hierarchy of defense-in-depth is also part of the WTS VPP program, which is strictly maintained in all safety program policies and procedures. The environmental management program at WIPP includes a pollution prevention program focused on minimizing and reducing possible exposure to toxic or hazardous substances and works closely with the industrial hygiene program accordingly. Hazard controls are embedded in aspects of WTS operations. The CCP activities at the host sites include not only the hazard controls for that specific site, but also additional controls in CCP management systems that include engineering, administrative controls/work controls, and personal protective equipment (PPE) above and beyond specific host site requirements. In working with the human error attribute of this Principle, WTS has started an initiative for Human Performance Improvement and will continue that endeavor, including identifying error likely situations, precursors, and barriers accordingly to ensure continuous improvement in implementing this Principle.

Attributes

- Work hazards are identified and controlled to prevent or mitigate accidents, with particular attention to high-consequence events with unacceptable consequences. Workers understand hazards and controls before beginning work activities.
- The selection of hazard controls considers the type of hazard, the magnitude of the hazard, the type of work being performed, and the life-cycle of the facility. Controls are designed and implemented commensurate with the inherent level and type of hazard.
- Safety analyses identifying work hazards are comprehensive and based on sound engineering judgment and data.
- Defense-in-depth is designed into high-hazardous operations and activities, and includes independent, redundant, and diverse safety systems, which are not overly complex. Defense-in-depth controls include engineering controls, administrative processes, and personnel staffing and capabilities.
- Emphasis is placed on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.
- The following hierarchy of defense in depth is recognized and applied: (1) elimination or substitution of the hazards, (2) engineering controls, (3) work practices and administrative controls, and (4) PPE. Inherently safe designs are preferred over requiring engineering controls. Prevention is emphasized in design and operations to minimize the use of, and thereby possible exposure to, toxic or hazardous substances.
- Equipment is consistently maintained so that it meets design requirements.
- Safety margins are rigorously maintained. Design and operating margins are carefully guarded and changed only with great thought and care. Special attention is placed on maintaining defense-in-depth.
- WTS implements hazard controls in a consistent and reliable manner. Safety is embedded in processes and procedures through a functioning formal ISMS. Facility activities are governed by comprehensive, efficient, high-quality processes and procedures.
- Hazard controls are designed with an understanding of the potential for human error. Error-likely situations are identified, eliminated, or mitigated. Existence of known error-likely situations is communicated to workers prior to commencing work, along with planned Mechanisms to assure their safety.

System Policies, Procedures, and Other Implementing Documents

- NM 48909399088-TSDF, WIPP Hazardous Waste Facility Permit
- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- DOE/WIPP-08-3378, *Waste Isolation Pilot Plant Emergency Planning Hazards Assessment*
- CCP-HSP-500, CCP Hazard Control Plan for RH TRU Operations at INTEC
- MP 1.12, Worker Protection Policy
- MP 1.28, Integrated Safety Management Policy
- WIPP-007, WTS Hazard Identification Summary Report for WIPP and Carlsbad, NM Operations
- WP 02-EC.05, Quality Assurance Project Plan for WIPP Site Effluent and Hazardous Materials Sampling
- WP 02-RP.02, Hazard Analysis Results Report for Remote Handled Waste
- WP 04-AD3011, Equipment Lockout/Tagout
- WP 04-AD3013, Underground Access Control
- WP 04-CO.01-8, Conduct of Operations Program, Control of Equipment and System Status
- WP 04-CO.01-9, Conduct of Operations Program, Lockout/Tagout
- WP 04-CO.01-10, Conduct of Operations Program, Independent Verification.
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 04 series, WIPP Mining Operations Normal Operations documents
- WP 04-HO series, WIPP Hoisting Operations Normal Operations documents
- WP 05-WH series, WIPP Waste Handling Operations Normal Operations documents
- WP 07-1, WIPP Geotechnical Engineering Program Plan

- WP 09, Engineering Conduct of Operations
- WP 10-2, Maintenance Operations Instruction Manual
- WP 10-AD3007, Use and Control of Rigging Components
- WP 12-2, WIPP ALARA Program Manual
- WP 12-3, Dosimetry Program
- WP 12-5, WIPP Radiation Safety Manual
- WP 12-9, WIPP Emergency Management Program
- WP 12-FP.01, Fire Protection Program
- WP 12-FP3002, Hot Work Permits
- WP 12-HP3300, Radiation Exposure Control
- WP 12-HP3400, Contamination Control
- WP 12-HP3600, Radiological Work Permits
- WP 12-IH.01, WIPP Chemical Hygiene Plan
- WP 12-IH.02, WIPP Industrial Hygiene Program Manual
- WP 12-IH.02-1, WIPP Industrial Hygiene Program - Hazard Assessment
- WP 12-IH.02-2, WIPP Industrial Hygiene Program - Confined Space
- WP 12-IH.02-3, WIPP Industrial Hygiene Program- Hazardous Waste Operations
- WP 12-IH.02-4, WIPP Industrial Hygiene Program - Hazard Communication and Hazardous Materials Management Plan
- WP 12-IH.02-5, WIPP Industrial Hygiene Program - Hearing Conservation
- WP 12-IH.02-6, WIPP Industrial Hygiene Program - Respiratory Protection Program
- WP 12-IH.02-7, WIPP Industrial Hygiene Program - Lasers, Lighting, and Pest Control
- WP 12-IH.02-8, WIPP Industrial Hygiene Program - Office Ergonomics
- WP 12-IH.02-9, WIPP Industrial Hygiene Program - Beryllium Exposure Prevention

- WP 12-IH.02-11, WIPP Industrial Hygiene Program - Polychlorinated Biphenyls (PCBs)
- WP 12-IH.02-12, WIPP Industrial Hygiene Program - Cryogenics, Refrigerants, and Process Gasses
- WP 12-IS.01, Industrial Safety Program - Structure and Management
- WP 12-IS.01-1, Industrial Safety Program - Postings, Warnings, and Hazards Identification
- WP 12-IS.01-2, Industrial Safety Program - Lockout/Tagout and Nonelectrical Energy Hazards
- WP 12-IS.01-3, Industrial Safety Program - Equipment and Tools
- WP 12-IS.01-4, Industrial Safety Program - Emergency and Personal Protective Equipment
- WP 12-IS.01-5, Industrial Safety Program - Hazardous Locations and Working Surfaces
- WP 12-IS.01-6, Industrial Safety Program - Visitor, Vendor, and Subcontractor Safety Controls
- WP 12-IS.01-7, Industrial Safety Program - General Electrical Safety
- WP 12-IS.01-7HV, Industrial Safety Program - Craft Manual - Electrical Safety
- WP 12-IS.01-8, Industrial Safety Program - Vehicle Safety
- WP 12-IS.01-9, Program - WTS Control and Oversight of Visitors, Vendors, and Subcontractors
- WP 12-IS3002, Job Hazard Analysis Development
- WP 12-NS.02, Fire Hazard Analysis Updates
- WP 12-NS.03, Hazard Analysis Guidance
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-HS.01, OSHA Bloodborne Pathogens Exposure Control Plan

6.1.7 Principle 7: Operations Authorization

An effective safety management system requires that the conditions and requirements that must be satisfied for operations to begin and continue to be clearly established and agreed on.

The ISMS is a process to confirm adequate preparation (including adequacy of controls), prior to authorizing work (including nuclear and non-nuclear), to begin at the facility, project, or activity level. Department of Energy Acquisition Regulation (DEAR) 970.5223-1(b)(7) requires that the DOE and the contractor establish and agree upon the conditions and requirements to be satisfied for operations to be initiated and conducted. These conditions and requirements are included in the contract. The formality and rigor of the review process and the extent of documentation and level of authority for agreement is based on the hazard and complexity of the work being performed. The process ensures that programs addressing all applicable functional areas are adequately implemented to support safe performance of the work.

WTS activities involving the handling, storage, and disposal of radioactive materials at WIPP are conducted in accordance with the terms and conditions of a signed AA, based on the authorization basis. The AA summarizes, in one concise document, the terms and conditions binding on WTS for safe operation of the facility. This includes compliance with the requirements and conditions imposed by the EPA certification and recertification as well as the HWFP. The AA is a supplement to the CBFO-WTS contract and is amended when the scope of work or the authorization basis changes. Responsibilities, inputs, terms and conditions, and the generation, review, approval, and control of the AA are controlled in accordance with MP 1.31, Authorization Agreement. The Operations Authorization for characterization activities at the generator sites is authorized per joint agreements and related certification reviews for readiness.

Attributes

- Formal facility AAs are in place and maintained between the DOE and WTS.
- Readiness at the facility level is verified before hazardous operations commence. Preoperational reviews confirm that controls are in place for known hazards.
- Facility operations personnel maintain awareness of all facility activities to ensure compliance with the established safety envelope.
- Work authorization is defined at the activity level. The work authorization process verifies that adequate preparations have been completed so that work can be performed safely. These preparations include verifying that work methods and requirements are understood; verifying that work conditions will be as expected and not introduce unexpected hazards, and verifying that necessary controls are implemented.
- The extent of documentation and level of authority for work authorization is based on the complexity and hazards associated with the work.

System Policies, Procedures, and Other Implementing Documents

- Prime Contract No. DE-AC29-01AL66444
- NM4890139088-TSDF, WIPP Hazardous Waste Facility Permit

- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the WIPP*
- DOE/WIPP-06-3335, *WIPP Nuclear Maintenance Management Program*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- DOE/WTS-01-3181, *Authorization Agreement for the Waste Isolation Pilot Plant*
- MP 1.31, Authorization Agreement
- WP 04-CO.01-2, Conduct of Operations Program, Shift Routines and Operating Practices
- WP 04-CO.01-8, Conduct of Operations Program, Control of Equipment and System Status
- WP 09-SU.01, WIPP Start-Up Test Program
- WP 12-NS1002, Safety Basis Implementation
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-IF series, Integrated Facility Check-out Plans
- WP 15-MD3101, Start-Up and Restart of the WIPP Facility
- Work authorization documents and statements of work

6.1.8 Safety Culture Element: Individual Attitude and Responsibilities for Safety

Every WTS employee accepts responsibility for safe mission performance. Individuals demonstrate a questioning attitude by challenging assumptions, investigating anomalies, and considering potential adverse consequences of planned actions. All employees are mindful of work conditions that may impact safety, and assist each other in preventing unsafe acts or behaviors.

This Principle is the foundational basis for the WTS VPP as manifested in MP 1.12, Worker Protection Policy. WTS has held a Star level VPP since 1994 that resounds the Principle of individual attitude and responsibility for safety. With the VPP requirements for individual involvement in safety, and the expectations for continuous improvement, the VPP has established what has historically been a very strong safety culture. WTS employees understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's implementation actions and deeds. WTS employees are actively involved in identification, planning, and improvement of work and work practices. They follow approved procedures. They know they are expected to

stop unsafe work at the first sign of unexpected conditions. WTS employees promptly report errors and incidents. They feel safe from reprisal in reporting errors and incidents; they offer suggestions for improvements. WTS employees maintain a questioning attitude toward safety and are intolerant of conditions or behaviors that have the potential to reduce operating or design margins. Several systems exist for employees to report concerns about work related hazards. WTS tracks these reporting systems to ensure that resolution is timely. This attention communicates the company commitment to safety and encourages employee involvement.

Initiatives have been launched for Human Performance Improvement focusing on the recognition of error-likely situations, managing and preventing those situations, and eliminating latent organizational weaknesses that allow them to occur. When fully developed and implemented, this program will assist in limiting the potential for human performance errors.

Attributes

- Individuals understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's actions and deeds. Workers are actively involved in identification, planning, and improvement of work and work practices. Workers follow approved procedures. Workers at any level can stop unsafe work or work during unexpected conditions.
- Individuals promptly report errors and incidents. They feel safe from reprisal in reporting errors and incidents; they offer suggestions for improvements.
- Individuals are mindful of the potential impact of equipment and process failures, they are sensitive to the potential of faulty assumptions and errors, and demonstrate constructive skepticism. They appreciate that mindfulness requires effort.
- Individuals recognize that errors and imperfections are likely to happen. They recognize the limits of foresight and anticipation, and watch for situations that have not been seen before. They appreciate that error-likely situations are predictable, manageable, and preventable, and seek to identify and eliminate latent conditions that give rise to human performance errors.
- Individuals cultivate a constructive, questioning attitude, and healthy skepticism when it comes to safety. Individuals question deviations, and avoid complacency or arrogance based on past successes. Team members support one another through both awareness of each other's actions and constructive feedback when necessary.
- Individuals are aware of, and counteract human tendencies to simplify assumptions, expectations, and analysis. Diversity of thought and opposing views are welcomed and considered. Intellectual curiosity is encouraged.
- Individuals are intolerant of conditions or behaviors that have the potential to reduce operating or design margins. Anomalies are thoroughly investigated,

promptly mitigated, and periodically analyzed in the aggregate. The bias is set on proving that work activities are safe before proceeding, rather than proving them unsafe before halting. Personnel do not proceed and do not allow others to proceed when safety is uncertain.

- Individuals outside the organization (including subcontractors, temporary employees, visiting researchers, etc.) understand their safety responsibilities.

System Policies, Procedures, and Other Implementing Documents

- General Employee Training
- MP 1.2, Work Suspension and Stop-Work Direction
- MP 1.12, Worker Protection Policy
- MP 1.28, Integrated Safety Management
- MP 1.29, Missions, Goals, and Responsibilities
- MP 1.52, Just Culture Management Policy
- WP 04-CO.01, Conduct of Operations
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 12-IS.01-6, Visitor, Vendor, and Subcontractor Safety Controls
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 14-TR.01, WIPP Training Program

6.1.9 Safety Culture Element: Operational Excellence

WTS achieves sustained high levels of operational performance, encompassing all activities to meet mission, safety, productivity, quality, environmental, and other objectives. High reliability is achieved through a focus on operations, conservative decision making, open communications, deference to expertise, and systematic approaches to eliminate or mitigate error-likely situations.

WTS provides layers of systems and processes to foster a culture and performance of safety excellence. Performance is measured and tracked to maintain safe operations and progress. WTS holds its personnel to high standards of performance and uses their expertise to ensure appropriate levels of review, analysis, and decision making. Continued implementation of the Human Performance Improvement program, will result in additional strengths in implementation of this Principle.

Attributes

- Line managers are in close contact with the front-line; they pay attention to real-time operational information. Maintaining operational awareness is a priority. Line managers identify critical performance elements and monitor them closely.
- Operational anomalies, even small ones, get prompt attention and evaluation; this allows early detection of problems so that necessary action can be taken before problems grow.
- Individuals are systematic and rigorous in making informed decisions that support safe, reliable operations. Workers are expected and authorized to take conservative actions when faced with unexpected or uncertain conditions. Line managers support and reinforce conservative decisions based on available information and risks.
- Candid dialogue and debate and a healthy skepticism are encouraged when safety issues are being evaluated. Differing professional opinions are welcomed and respected. Robust discussion and constructive conflict are recognized as a natural result of diversity of expertise and experience.
- Line managers regularly and promptly communicate important operational decisions, their basis, expected outcomes, potential problems, and planned contingencies.
- WTS knows the expertise of their personnel. Line managers defer to qualified individuals with relevant expertise during operational upset conditions. Qualified and capable people closest to the operational upset are empowered to make important decisions, and are held accountable justly.
- Operations personnel are held to high standards of both technical understanding and detailed task-oriented performance. Operations personnel provide reliable and consistent responses to expected occurrences. Flexible responses to unexpected occurrences are based on continuous preparation and training. Formality and discipline in operations are valued.
- WTS systems and processes are designed to provide layers of defenses, recognizing that people are fallible. Prevention and mitigation measures are used to preclude errors from occurring or propagating. Error-likely situations are sought out and corrected, and recurrent errors are carefully examined as indicators of latent organizational weaknesses. Managers aggressively correct latent organizational weaknesses and measure the effectiveness of actions taken to close the gaps.

System Policies, Procedures, and Other Implementing Documents

- General Employee Training
- CCP-PO-005, Conduct of Operations

- MP 1.2, Work Suspension and Stop-Work Direction
- MP 1.28, Integrated Safety Management
- MP 1.29, Missions, Goals, and Responsibility
- MP 1.52, Just Culture Management Policy
- WP 04-CO.01, Conduct of Operations series
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 15-GM.02, Worker Safety and Health Program Description

6.1.10 Safety Culture Element: Oversight for Performance Assurance

Competent, robust, periodic and independent oversight is an essential source of feedback that verifies expectations are being met and identifies opportunities for improvement. Performance assurance activities verify whether standards and requirements are being met. Performance assurance through conscious, directed, independent reviews at all levels brings fresh insights and observations to be considered for safety and performance improvement.

WTS provides extensive performance assurance through several mechanisms, including the QA program, the contractor assurance program, and inspections, management assessments, and safety reviews. WTS supports and uses the Occurrence Reporting and Processing System (ORPS), Computerized Accident/Incident Reporting System, and the National Tracking System, which provides timely reporting of occurrences and ensures that appropriate action is taken. Periodic reports detail progress and any problems in project performance. Independent oversight is carried out by qualified WTS personnel to review documentation and conduct field surveillances, assessments, and audits of operations. Problems are discovered early in the process so that interventions can be taken to prevent further damage and to apply lessons learned to other ongoing projects. WTS safety and engineering professionals provide expertise to field activities to assist in technical issues and to measure progress. The annual review of the ISMS identifies program strengths and weaknesses and tracks corrective actions to timely completion.

A Performance Assurance organizational department is being developed to ensure the appropriate level of focus for WTS in meeting these attributes.

Attributes

- Performance assurance consists of robust, frequent, and independent oversight, conducted at all levels of the organization. Performance assurance includes independent evaluation of performance indicators and trend analysis.

- Performance assurance programs are guided by plans to ensure that a base level of relevant areas are reviewed. Assessments are performed against established requirements (such as those defined in criteria and review approach documents).
- Efficient redundancy in monitoring is valued; higher levels of redundancy are recognized as necessary for higher risk activities.
- Performance assurance includes a diversity of independent "fresh looks" to ensure completeness and to avoid complacency.
- The insights and fresh perspectives provided by performance assurance personnel are valued. Organizational feedback is actively sought to make performance assurance activities more value-added.
- Complete, accurate, and forthright information is provided to performance assurance organizations.
- Results from performance assurance activities are effectively integrated into the performance improvement processes, such that they receive adequate and timely attention. Linkages with other performance monitoring inputs are examined, high-quality causal analyses are conducted, as needed, and corrective actions are tracked to closure with effectiveness verified to prevent future occurrences.
- Line managers throughout WTS set an example for safety through their direct involvement in oversight activities and associated performance improvement.
- Senior line managers are periodically briefed on results of oversight group activities to gain insight into organizational performance and to direct needed corrective actions.
- Periodic ISM reviews, assessments, and verifications are conducted and used as a basis for ISM program adjustments and implementation improvements.

System Policies, Procedures, and Other Implementing Documents

- DOE/WIPP-05-3318, *WIPP Environmental Management System Description*
- CCP-QP-014, CCP Data Analysis and Trending
- CCP-QP-018, CCP Management Assessments
- CCP-QP-021, CCP Surveillance Program
- MC 1.9, Senior Management Corrective Action Review Board
- S/RID

- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 02-EC.13, Environmental Assessment Plan
- WP 12-5, WIPP Radiation Safety Manual
- WP 12-IH.02, Industrial Hygiene Program Manual
- WP 12-IS.01, Industrial Safety Program - Structure and Management
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 13-QA.03, Quality Assurance Independent Assessment Program
- WP 13-QA3006, Data Analysis and Trending
- WP 15-GM.01, WTS Project Execution Plans
- WP 15-GM.02, WTS Worker Safety and Health Program Description
- WP 15-GM1000, Management Assessments

6.1.11 Safety Culture Element: Organizational Learning for Performance Improvement

WTS will demonstrate excellence in performance monitoring, problem analysis, solution planning, and solution implementation. WTS encourages openness and trust, and cultivates a continuous learning environment.

Performance monitoring is a cornerstone of performance improvement at WIPP. Information reported is analyzed to discover both trends in performance excellence and emerging problems at WTS. Lessons learned are prepared and disseminated. WTS encourages and expects open communication and provides numerous opportunities for employees to share information and concerns. The contractor assurance program provides a formal program of self-assessments that supports organizational learning. In addition, WTS is developing and launching an initiative with an operating experience and high reliability organization focus that will ensure continuous improvement in the foundational aspects necessary to continue as a learning organization focused on performance improvement.

Attributes

- WTS actively and systematically monitors performance through multiple means, including leader walk-arounds, issue reporting, performance indicators, trend analysis, benchmarking, industry experience reviews, self-assessments, and performance assessments. Feedback from various sources is integrated to create a full understanding.

- Processes are established to identify and resolve latent organizational weaknesses that can aggravate relatively minor events if not corrected. Linkages among problems and organizational issues are examined and communicated.
- Open communications and teamwork are the norm. People are comfortable raising and discussing questions or concerns. Good news and bad news are both valued and shared.
- A high level of trust is established in the organization. Reporting of individual errors is encouraged and valued. A variety of methods are available for personnel to raise safety issues, without fear of retribution.
- WTS employees swiftly discover the lessons to be learned from mistakes. Frequent incident reviews are conducted promptly after an incident to ensure data quality to identify improvement of opportunities.
- Operating experience is highly valued, and the capacity to learn from experience is well developed. The organization regularly examines and learns from operating experiences, both internally and in related industries.
- Expertise in causal analysis is applied effectively to examine events and improve safe work performance. High-quality causal analysis is the norm. Causal analysis is performed on a graded approach for major and minor incidents, and near-misses, to identify causes and follow-up actions. Even small failures are viewed as windows into the system that can spur learning.
- Performance improvement processes encourage workers to offer innovative ideas to improve performance and to solve problems.
- Line managers are actively involved in all phases of performance monitoring, problem analysis, solution planning, and solution implementation to resolve safety issues.
- Vigorous corrective and improvement action programs are in place and effective. Rapid response to problems and closeout of issues ensures that small issues do not become large ones. Managers are actively involved to balance priorities to achieve timely resolutions.

System Policies, Procedures, and Other Implementing Documents

- CCP-QP-014, CCP Data Analysis and Trending
- CCP-QP-025, CCP Lessons Learned Program Management Control Procedure
- MC 1.9, Senior Management Corrective Action Review Board
- WP 02-EC.13, Environmental Assessment Plan

- WP 04-CO.01-6. Conduct of Operations Program, Investigation of Abnormal Events
- WP 04-CO.01-14, Conduct of Operations Program, Required Reading
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 09, Engineering Conduct of Operations
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- WP 13-QA3006, Data Analysis and Trending
- WP 15-GM.01, WTS Project Execution Plans
- WP 15-GM.02, WTS Worker Safety and Health Program Description
- WP 15-GM1001, Root Cause Analysis
- WP15-MD3102, Event Investigation
- WP 15-PA.01, Operating Experience/Lessons Learned Program
- WP 15-PA2000, Lessons Learned Bulletin Development

- WP 15-RA.01, Nuclear Safety and Worker Safety and Health Compliance Program

6.2 Implementation of the Five Core Functions

DOE P 450.4 lists the five core safety management functions that provide the necessary structure for any work activity that could potentially affect the public, the workers, and the environment. The functions are applied as a continuous cycle with the degree of rigor appropriate to address the type of work activity and the hazards involved.

WTS has integrated the five Core Functions with its seven ISM Principles and four Safety Culture Elements. The attributes, applicable management systems and performance objectives, measures and commitments have already been discussed. Table 1 shows the relationship between Core Functions and the ISM Principles. The first three Principles are commonly applicable to all five functions. The following sections summarize the WTS management approach for each core function.

WTS work planning and control is patterned after the ISM Core Functions at an activity level. Hazards are typically identified using an activity level hazard analysis and appropriate controls established and implemented via work packages. The work planning and control process, including feedback and improvement typically discussed at post job briefings, is in alignment with the ISM Core Functions. WTS is directly

involved in developing or implementing this level of detail because this process is at the site operations level.

6.2.1 Core Function 1: Define Scope of Work

Missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated. In accordance with DOE O 135.1, *Budget Execution - Funds Distribution and Control*, the Validation and Program Planning Cycle Guidance Document (the Guidance Document) is transmitted by the CBFO to WTS before the start of each fiscal year. Summary level scope of work, funding, and schedule information is provided. The Guidance Document controls the process for integrating upcoming fiscal year budget validation with out-year strategic planning and budget formulation.

Based on the assumptions stated in the Guidance Document, control account managers, in consultation with line managers, define detailed activities. Control account managers prepare cost estimates and schedules for accomplishing the scope of work. Detailed information regarding technical requirements, drivers, documents, and specifications, as well as reports and deliverables, is presented in Bases of Estimates or Activity Based Costing tables. As evidenced by a notation on the final budget worksheets, environmental issues are specifically considered during the development of budget worksheets.

WTS and the CBFO management use a prioritization process to identify which activities will be completed with available funding. Mechanisms for setting expectations for upcoming fiscal year work are the budget validation and contract definition processes. These iterative processes result in a document that contractually establishes scope of work and resources for the upcoming budget year. In addition, performance based incentives are established by the DOE to ensure that the DOE expectation of safe performance is achieved.

Authorization to execute the scope of work is obtained through the DOE execution and issuance of a Fiscal Year Contract Modification. Following contract execution, all changes are controlled through WP 15-FC.01, Washington TRU Solutions LLC Programmatic Change Control Process.

The concepts and procedures used for preparing the detailed information (schedules, budgets, and methods of performance measurement) to support upcoming fiscal year budget validation and the long-term budget formulation are contained in WP 15-2, Management Control System Program. WP 15-2 provides a systematic, risk-based graded approach for determining the level of control necessary to ensure that projects are completed as planned and within the approved budget and schedule. Proper implementation of the concepts discussed in the ISMSD, and using the budget change control process described in WP 15-FC.01, ensures that a clear understanding of the resource requirements achieve safe performance of authorized activities.

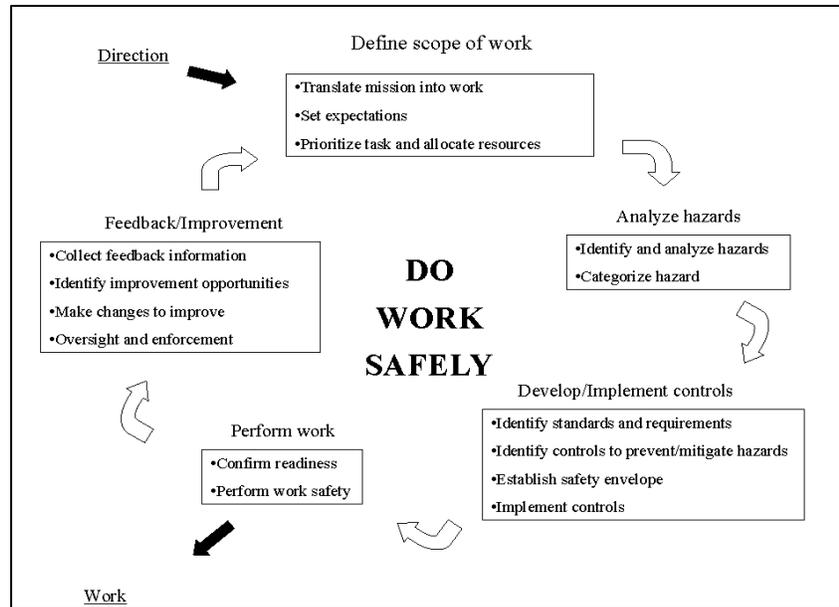


Figure 3 – Safety Management Functions

6.2.2 Core Function 2: Analysis of Hazards

Hazards associated with work are identified, analyzed, and categorized.

The objective of hazards analysis is to develop an understanding of the potential for the hazard to affect the health and safety of the worker, the public, and the environment. Hazard controls are then established based on this understanding and other factors related to the work. The analysis includes two steps: (1) identifying and categorizing the hazard and (2) analyzing accident scenarios related to hazardous work. In identifying hazards at the task/activity level, workers are a valuable resource for their knowledge of the process and its hazards. Categorization may address the character of the work (nuclear, chemical, thermal, electrical, and kinetic [motion]) and the magnitude of the hazard. For example, during work design, or in the early project planning stages, hazards may be identified and evaluated using broad, simple tools that delineate hazards and assess the potential magnitude of the harm. At this stage, a simple hazard analysis can be sufficient as a tool for design evaluation and design improvement.

Identification, analysis, and categorization of hazards are subjects of the implementing documents described below.

The *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement* (DOE/EIS-0026-S-2) assesses whether to dispose of TRU waste at WIPP. This document also assesses reasonable options for transportation and other activities associated with disposal, as well as reasonable alternatives concerning quantities, sources, and treatment of TRU waste before disposal.

The analysis of nuclear hazards associated with contact-handled (CH) TRU waste operations is contained in DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis* (DSA), and respective generator host site DSAs and TSRs. The analysis of hazards associated with remote-handled (RH) TRU waste operations is also

contained in DOE/WIPP-07-3372. The development of hazards analyses reflected in the DSA results from evaluation of facility changes, new proposed processes, or waste form additions proposed for the repository. The processes for evaluating and documenting major scope and design changes are described in WP 02-EC3801, Environmental Compliance Review and National Environmental Policy Act (NEPA) Screening; WP 09, Engineering Conduct of Operations; and WP 10-2, Maintenance Operations Instruction Manual.

In accordance with the requirements of 10 CFR §830.204, "Documented Safety Analysis," the DSA documents the safety analyses that develop and evaluate the adequacy of the safety bases. The safety bases are defined by 10 CFR §830.3, "Definitions," as "The documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that protects workers, the public, and the environment."

The DSA establishes and evaluates the adequacy of the WIPP safety bases in response to plant normal and abnormal operations, and postulated accident conditions. The WIPP safety bases analyzed include:

- (1) The adequacy of the design basis of WIPP structures, systems, or components, and the application of appropriate engineering codes, standards, and QA requirements.
- (2) The selection of principal design and safety criteria.
- (3) The assignment of TSRs.
- (4) The management, conduct of operations, and institutional dimensions of safety assurance.

6.2.3 Core Function 3: Develop and Implement Hazard Controls

Applicable standards and requirements are identified and agreed on, controls to prevent or mitigate hazards are identified; the safety envelope is established; and controls are implemented.

Integrated hazard assessment that is verified and reviewed is fundamental to the WTS approach to develop and implement hazard controls. Before work is performed, the associated hazards are evaluated and a set of environment, safety and health requirements that, if properly implemented, provide adequate assurance that the public, the workers, and the environment are protected for all nuclear and non-nuclear work activities are agreed upon.

The AA contains key terms and conditions (controls and commitments) under which WTS is authorized to perform work. Any changes to these terms and conditions require the CBFO approval. The authorization basis (or safety basis) consists of the facility design basis and operational requirements that the CBFO relies on to authorize operation, and is described in documents such as the DSA, TSR, hazard classification

documents, other safety analyses, and other facility specific commitments made to ensure compliance with the DOE Orders, rules, or policies.

The TSR is an important authorization basis document that define the conditions, safe boundaries, and the management or administrative controls necessary to ensure the safe operation of the WIPP, which is a Category 2 nuclear facility. TSR controls are also designed to reduce potential risk to workers and the public from uncontrolled releases of radioactive materials or from radiation exposures due to inadvertent criticality. The TSR includes safety limits, operating limits, surveillance requirements, administrative controls, use and application instructions, and their bases, in support of the DSA.

Unreviewed Safety Question (USQ) evaluations are important in maintaining the integrity of safety basis documents. A USQ exists if one or more of the following conditions result:

- (1) The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the DSA could be increased;
- (2) The possibility for an accident or malfunction of a different type than any previously evaluated in the DSA could be created; or
- (3) Any margin of safety as defined in the bases of the TSR could be reduced.

The WTS USQ program ensures that the authorization basis approved by the DOE remains current and provides an adequate level of protection to workers, the public, and the environment.

WTS has programs and procedures that define how operational, safety, radiological, and environmental controls are implemented at the WIPP. This includes controls to avoid hazards and enhance prevention such as pollution prevention strategies. The controls also include immediate protective actions in MP 1.2, Work Suspension and Stop-Work document (the Stop Work Policy), as well as overall programmatic controls in MP 1.12, Worker Protection Policy.

6.2.4 Core Function 4: Perform Work within Controls

Readiness is confirmed and work is performed safely.

The basis for performing work in the WIPP program is formed on expectations of strict compliance with procedures which flow from the AA and the Hazardous Waste Facility Permit (HWFP). Personnel are held responsible and accountable for performance of work in accordance with the procedures.

DOE/WIPP-05-3318, *WIPP Environmental Management System Description*, provides a narrative of how this ISMS function is implemented for environmental protection.

WP 02-EC.12, Site Users Guide for Organizations, Personnel, or Companies That Perform Work on U.S. Department of Energy Property or Rights-of-Way on or Around the Waste Isolation Pilot Plant Site, implements this function.

The QAPD supports efficient conduct of work that ensures protection of workers, the public, and environment, taking into account the work to be performed and the associated hazards.

WTS work is performed in compliance with approximately 600 work procedures and approximately 600 preventive maintenance procedures, which are maintained in the site electronic document management system (EDMS). Additional work instructions are prepared as needed. Subcontractor work is performed according to contractual agreements that require compliance with applicable WTS procedures and approved job hazard analyses, per WP 12-IS.01-6. Site Operations and Disposal Department personnel are responsible for surface, underground, and waste handling operations. Surface, underground, and waste handling personnel use the 187 administrative and technical procedures in the WP 04 and WP 05 series, available in the EDMS.

Site Operations and Disposal Department personnel are also responsible for maintenance operations. During pre-job briefings, maintenance craft are provided with approved work instructions or procedures as part of the instructions contained in a work package. Written work instructions and standing orders, as well as procedures, have been approved by cognizant engineers and take into account the results of hazard analyses and recommended mitigating actions.

Maintenance managers oversee preparation of work packages in accordance with guidance contained in WP 10-2, Maintenance Operations Instruction Manual, and manage execution of the work in the field. Work packages are reviewed by the WTS Facility Shift Manager who determines if the maintenance work can be performed that day without adversely impacting plant operations.

The WTS stop work authority places responsibility and authority on every WTS employee and every WTS subcontractor employee and site user to stop work immediately, without the fear of reprisal, when they are convinced a situation exists that places them, their coworkers, or the environment in danger. "Stop Work" means stopping the specific task or activity that poses danger to human health and/or the environment.

6.2.5 Core Function 5: Provide Feedback and Continuous Improvement

Feedback information on the adequacy of controls is gathered, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory and enforcement actions occur.

The safety management program at WIPP stresses pre-work analysis and planning to establish the safety controls that are to be integrated into work processes. This approach is the essence of integrated safety management envisioned by the Defense Nuclear Facilities Safety Board in its recommendation 95-2 and in DOE P 450.4. WTS

uses the feedback function to collect information and make changes to improve its overall ISMS, including environmental protection.

Feedback and continuous improvement flow from many of the WTS procedures and other controlled documents. The following documents are a representative sample of administrative and technical methods for assessing and evaluating activities and developing corrective actions for issues identified as part of normal operations. As stated in MP 1.20, Management Assessments; CCP-QA-018, Management Assessments and MP 1.12, managers at every level will assess the performance of their organization to determine the effectiveness of the organization key functions to meet customer requirements and expectations.

WP 15-GM1000, Management Assessments, and CCP-QP-018 implement the management assessment program. Required management assessments are performed at least annually, by management, to identify good management practices and potential obstacles within the WTS organization that may hinder the organization from achieving its objectives. Processes to be assessed may include organizational interfaces, cost control, performance indicators, staff training and qualifications, objectives, management systems, demonstration of continuous improvement, and supervisory oversight and support. Managers are encouraged to use a graded approach in planning assessments.

The scope, frequency, and documentation are commensurate with the risk of the activity to the worker, the environment, and the health and safety of the general public. All deficiencies identified in management and independent assessments are reported and tracked to closure via the site's commitment tracking system.

WP 12-ES3918, Reporting Occurrences in Accordance with DOE O 231.1A, is the implementing document for DOE O 231.1A, *Environment, Safety, and Health Reporting*. The procedure establishes a system for reporting events to the Facility Shift Manager or the Facility Manager designee for categorization and reporting. It applies to all departments and activities at WIPP and at all the DOE controlled facilities in Carlsbad. Similar procedures are implemented at generator host sites where WTS performs characterization work with the host facility reporting occurrences coordinating with WTS. In addition, it applies to occurrences resulting from activities performed by subcontractors at these facilities. If the event falls within the ORPS thresholds, the Facility Manager or Facility Manager Designee initiates the collection of information pertaining to the event, with the assistance of the Facility Shift Manager and the responsible manager. Feedback is derived from an investigation that is initiated as required by WP 15-MD3102, Event Investigation; and WP 15-GM1001, Root Cause Analysis. These procedures provide instructions for conducting investigations, generating root cause analysis reports, and developing corrective action plans.

Since feedback and improvement avenues for nuclear safety are provided through the Price Anderson Amendments Act provisions of WP 15-GM1001 the groundwork is in place for continued exercise of this function for industrial safety under the newly promulgated 10 CFR Part 851 in 2007.

Results of the investigation are disseminated to others in the company as applicable through the WIPP Operating Experience/Lessons Learned Program. In addition, the information is made available throughout the DOE complex by uploading the report to the ORPS database. If the event falls below the ORPS reporting thresholds, the responsible manager reviews the event and, at their discretion, initiates an internal investigation in accordance with WP 15-MD3102. The manager may still request a documented investigation. If the event was not a significant condition that warranted a documented investigation, the manager assesses the event to determine if personnel training or personnel notification are needed to prevent future recurrence and takes the appropriate action.

WP 13-1, WTS QAPD, is the company level document that describes how operational audits and assessments are completed. The associated procedures describe the Mechanisms for completing operational system audits and developing and tracking corrective actions.

The requirements and guidance contained in the QAPD are based on the Principle that work will be planned, documented, performed under controlled conditions, and periodically assessed to establish work item quality and process effectiveness and to promote improvement. Additional feedback and improvement details are collected when consistent with guidance in the QAPD; departments perform functional area assessments specified in applicable regulations and the DOE Orders.

As written and implemented at WIPP, DOE/WIPP-05-3318 provides a narrative of how this ISMS function is implemented under the EMS.

WP 02-EC.13, Environmental Assessment Plan, describes how environmental assessments are performed to ensure compliance with all environmental requirements. It is also designed to assess adherence to environmental stewardship practices as part of the ISMS. The plan supports the feedback and improvement function of the ISMS.

WP 04-IM1000, Issues Management Processing of WIPP Forms, establishes the WIPP Issues Management Program. The WIPP Form is a tool used to report, track, schedule, and resolve issues at WIPP. The scope may include issues of both high and low significance. This scope also includes conditions adverse to quality that require reporting by the QA program or other reporting entities, such as the DOE and the U.S. Environmental Protection Agency (EPA).

All WTS personnel are responsible for the identification of issues that may require correction, improvement, or management attention and submitting them on a WIPP Form. A "no-fault" attitude is fostered by managers to encourage employees to report issues and allow management to prioritize and focus resources in a manner that addresses the issues that have the greatest potential for:

- Posing adverse risks to the environment and human health
- Adversely impacting the quality, safety, and reliability of waste operations
- Affecting the ability to meet quality requirements

WTS has chartered groups to give employees chances to identify improvement opportunities, make improvements to WTS operations, and provide feedback.

Management charters (MCs) describe each group's functions and activities. Examples of the groups are the Electrical Safety Committee, the Surface Management Council, the Radiological As Low As Reasonably Achievable (ALARA) Committee, the Lessons Learned Working Group, and the Safety Awareness Committee.

7.0 INTEGRATION OF EMS, QA, AND ISSM INTO ISM

DOE O 450.1A establishes EMS requirements. EMS requirements are integrated into this ISMSD as required by DOE M 450.4-1. The integration of the EMS, QA, and Integrated Safeguards and Security Management (ISSM) components into the ISM Principles and Core Functions is illustrated in Table 1.

7.1 Environmental Management System

To implement sound stewardship practices that protect the air, water, and land, WTS maintains the responsibilities and requirements of DOE O 450.1A for the work performed per contract DE-AC29-01AL66444, which includes work performed by WTS subcontractors. The EMS is implemented to ensure that environmental protection actions and measures are integrated into all work planning and performance. This is accomplished effectively by integrating EMS requirements into the ISMS.

The EMS is part of the overall WTS ISMS approach for achieving workplace safety and environmental protection. The EMS provides a systematic management process for identifying and addressing environmental consequences of any WTS action. Processes within the EMS encompass a continuous cycle of planning, implementing, and evaluating to ensure the safety of the workers and public and protection of the environment.

Programmatic components of EMS include:

- Permit Management
- Pollution Prevention
- Environmental Compliance
- Environmental Oversight
- NEPA Analysis
- Radiation Protection and Radioactive Waste Management
- Watershed Management
- Cultural Resource Management

Integrated Safety Management System Description
 WP 15-GM.03, Rev. 3

Table 1 – Correlation of EMS, QA, and ISSM to ISM

ISMS Guiding Principles & Safety Culture Elements	Supplemental High Reliability Principles	ISM Core Functions	Quality Assurance Criteria	EMS Objectives	ISSM Guiding Principles
Line Management Responsibility Clear Roles and Responsibilities Competence to Perform Responsibilities Balanced Priorities Identification of Safety Standards Tailor Hazard Controls to Work Operations Authorization Individual Attitude and Responsibility for Safety Operational Excellence Oversight for Performance Assurance Organizational Learning for Performance Improvement	Highly-Reliable Operational Performance Individual Attitude and Responsibility Performance Assurance Organizational Performance Improvement	Define Scope of Work Identify and Analyze Hazards Develop and Implement Hazard Controls Perform Work Within Controls Feedback and Continuous Improvement	QA Program Personnel Training and Qualifications Work Processes Documents and Records Design Control Procurement Quality Improvement Inspection and Acceptance Management Assessment Independent Assessment	Policy, Planning, Implementation and Operation Permitting Public Health and Environmental Protection Pollution Prevention Compliance	Individual Responsibility and Participation Line Management Responsibility Clear Roles and Responsibilities Competence Balanced Priorities Identification of Safeguards and Security Standards and Requirements Tailoring of Protection Strategies to Work Being Performed

Through the implementation of the EMS, WTS joins with the CBFO to ensure that environmental management considerations are fundamental and integral components of the WIPP Project. The integration of the EMS into ISMS also ensures that the requirements from DOE O 450.1A are met.

7.2 Quality Assurance

WTS is committed to the quality of all mission results. The QAPD describes the method by which QA is implemented into the ISMS and the overall work processes.

WTS is committed to achieving quality in accordance with the "Quality Assurance Rule" (10 CFR Part 830, Subpart A, "Quality Assurance Requirements") and DOE O 414.1C by having a comprehensive QAPD in place. The QAPD identifies those requirements and actions that are implemented to achieve this result.

The QAPD is the company-level document that describes how operational audits and assessments are completed. The associated procedures describe the Mechanisms for completing operational system audits and developing and tracking corrective actions.

The requirements and guidance contained in the QAPD are based on the Principle that work will be planned, documented, performed under controlled conditions, and periodically assessed to establish work item quality process effectiveness, and to promote improvement. Additional feedback and improvement details are collected when consistent with guidance in the QAPD; departments perform functional area assessments specified in applicable regulations and the DOE Orders.

7.3 Integrated Safeguards and Security Management

The ISSM implements the sustained execution of security expectations at the WIPP. The ISM and ISSM are complementary management systems based upon the same Principles and Core Functions. When possible, infrastructures are shared, such as the processes for creating, issuing, and communicating requirements and expectations.

The DOE, in response to the Under Secretary for Nuclear Security and Administration committed to implementing a plan to institutionalize an ISSM program across the DOE complex. The plan requires contractors to follow ISSM objectives, Guiding Principles and Core Functions, Mechanisms, Responsibilities, and implementation components, and to describe the approach for implementing and tailoring an ISSM to the operating contractor activities. In managing and operating WIPP, WTS supports the program by ensuring that management of safeguards and security functions and activities become an integral and visible part of work planning and execution processes.

The purpose of DOE P 470.1, *ISSM Policy*, is to formalize an Integrated Safeguards and Security Management framework. Safeguards and security management systems provide a formal, organized process for planning, performing, assessing, and improving the secure conduct of work in accordance *with* risk-based protection strategies. These systems are institutionalized through the DOE directives and flowed into contracts as appropriate.

The objective of the ISSM Program at the WIPP is to systematically integrate safeguards and security into management and work practices at all levels so that missions are accomplished securely. This provides the necessary and appropriate protection for nuclear material, information, personnel, and property. Operational security at WIPP is managed under and evaluated for effectiveness in the following sub-programs:

- Program Management
- Information Security
- Materials Control and Accountability
- Personnel Security
- Cyber security

The Guiding Principles for ISSM include the following:

- Individual Responsibility and Participation. Each individual is directly responsible for following security requirements and contributing to secure missions and workplaces.
- Line Management Responsibility for Safeguards and Security. Line management is directly responsible for the protection of the DOE assets. Appropriate risk analysis is performed prior to work being authorized. Residual risk must be accepted by line management controls must be in place and verified prior to authorization of operations.
- Clear Roles and Responsibilities. Clear and unambiguous lines of authority and responsibility for ensuring safeguards and security must be established and maintained.
- Competence Commensurate with Responsibilities. Individuals must possess the experience, knowledge, skills, and abilities necessary to fulfill their responsibilities.
- Balanced Priorities. Resources must be allocated effectively to address safeguards and security, programmatic, and operational considerations, realizing that achieving programmatic goals is a significant component of achieving safeguards and security. Protecting the DOE assets is a priority whenever activities are planned and performed.
- Identification of Safeguards and Security Standards and Requirements. Before work is performed, the associated risk must be evaluated, and an agreed upon set of safeguards and security standards and requirements shall be established that, if properly implemented, will provide appropriate assurance that the DOE assets, the worker, the public, and the environment are protected from adverse consequences.

- Tailoring of Protection Strategies to Work Being Performed. Administrative and engineering controls to prevent and mitigate risk must be tailored to the work being performed.

The Core Functions for ISSM include:

- Define the Scope of Work. Missions are translated into work, potential requirements identified, expectations set, tasks identified and prioritized, related security assets identified, and resources allocated.
- Analyze the Risk. Risks associated with the work are analyzed to determine applicable requirements.
- Develop and Implement Security Measures. Measures and controls are tailored and implemented to mitigate risk. Residual risk is accepted by line management.
- Perform Work Within Measures and Controls. Authorized security measures are in place and work is performed accordingly.
- Provide Feedback and Continuous Improvement. Feedback information on the adequacy of measures and controls is gathered. Opportunities for improving the definition and planning of work are identified and implemented. Best practices and lessons learned are shared.

These Guiding Principles and Core Functions are closely integrated with the overall ISM. Mechanisms such as the Operational Security (OPSEC) program, cyber security certification program, property protection, and others are used to specifically implement these expectations.

7.4 Title 10 CFR Part 851

The WTS plan developed to demonstrate implementation of the requirements of 10 CFR Part 851 is WP 15-GM.02. The WTS WSHPD, the VPP, the Worker Protection Policy (MP 1.12), and the implementing safety and health programs are integrated in the ISMS, forming the overall foundation for the WTS safety program.

7.5 Management Systems to be Established/Strengthened

A number of initiatives have launched focused on improving components of Integrated Safety Management. These have included continued focus on Conduct of Operations with a Conduct of Operations Improvement Team leading the initiative. It has also included improvements in the Operating Experience Program with the development of a new lessons learned database that during the coming year will be launched for sitewide access allowing work planners and others to research applicable lessons learned when building new work packages. A significant effort has gone into ensuring effective continuous improvement with improvements in the conduct of root cause analysis, developing effective corrective actions, and developing new processes to ensure its effectiveness. This has included advanced training with consultants participating on

root cause analysis teams, advanced training in incorporating human performance improvement into the cause analysis, and instituting a senior management corrective action review board. Part of this overall focus has also included a new function specifically titled performance assurance to ensure the attributes for the ISM principle on Performance Assurance are effectively implemented and continuously improving. Other improvement areas include significant improvement in identifying hazards through a new JHA program, and in ensuring appropriate visitor, vendor, and subcontractor safety controls. Safety oversight assessments have been increased, including at the host sites, and plans to strengthen that oversight are in progress.

A focus on Human Performance Improvement has been launched with several pilot groups now working on initiating improvements in areas such as pre-job briefings, identifying process weaknesses and related hazards that need additional barriers to be put in place to prevent a human error from initiating an incident.

One area of improvement unfortunately was the result of an incident that resulted in significant injury and a Type B investigation. That has resulted in improvements in not only electric carts, but in the vehicle safety program overall, and in increased focus in ensuring the manufacturer's operating manuals are incorporated into the maintenance, training, and other key components of the programs related to that piece of equipment. This will continue as an area to be strengthened as work continues to ensure that corrective actions are verified as effective.

Another area where improvements have been initiated is based on communications. Leadership classes have been launched assisting management in working with a variety of personalities and reinforcing effective communication techniques. The communications area needs improvement and strengthening and will continue to be a focus. Additional focus is planned related to the other attributes of the safety culture elements to ensure continuous improvement in ISMS.

7.6 Communications and Training Plan

ISMS training is communicated to workers as an integral part of the required General Employee Training (GET) and the required annual GET refresher class for the CBFO and contractor employees. As directives change and are amended, the GET material is updated and employees are notified of the changes. An improvement this year, included providing the Safety Programs Handbook to new employees as part of their initial GET class. This provides an overview of the basic premise of ISMS, 10 CFR Part 851, VPP, and their rights, roles, and responsibilities related to safety. The Safety Programs Handbook was updated this year to include the new Safety Management Commitment, and the Safety Policy to place continued focus at the individual level to enhance the safety culture element of "Individual Attitude and Responsibilities for Safety."

8.0 OTHER SAFETY-RELATED INITIATIVES

WTS has implemented the Principles and functions of a variety of processes and initiatives aimed at improving organizational and individual performance. A number of tools, processes, or approaches have been adapted to complement ISM. They share

many common Principles that affect organizational and individual worker, supervisor and management behavior and performance.

The WIPP site has been a VPP STAR site since 1994. Continued focus on maintaining STAR level of excellence in VPP will assist in providing the strong safety culture foundation to meet WTS management expectations. The VPP and ISMS, as well as good general business practices, have historically demonstrated that maintaining a strong safety culture requires continuous improvement with higher expectations each year. Based on that commitment, safety-related initiatives for continuous improvement include continued focus and awareness on Conduct of Operations, and continued program development for Human Performance Improvement and high reliability organization projects to maintain and improve the safety consciousness of the work force, while providing programmatic support for safety excellence.

9.0 ANNUAL ISM MAINTENANCE AND CONTINUOUS IMPROVEMENT PROCESSES

9.1 ISM System Description Maintenance and Continuous Improvement

The ISMSD is a requirement of DEAR 970.5204-2 and satisfies DEAR 970.5215-3, which requires WTS to develop and implement a ISMS approved by the DOE. The Safety and Health manager is responsible for preparing the ISMSD, coordinating annual reviews, and obtaining general approvals.

WTS will update the WTS ISMSD at least annually, basing content and intent on the expectations expressed in the CBFO ISMSD. The update will be submitted to the CBFO for approvals for any changes other than editorial changes which do not require the DOE approval. It is recognized that WTS will add, delete, and modify requirements in the ISMSD as various regulations, directives, standards, and best practices change.

WTS reviews these aspects at least annually against the then current DOE Safety Management System expectations and takes one of the following actions:

- Submits a complete revision of the WTS ISMSD for the CBFO approval
- Submits page revisions of editorial changes to the CBFO for information
- Submits a letter to the CBFO indicating no change to the ISMSD.

Annual performance objectives, measures, and commitments will be considered as Attachment 1, Previous Goals and Performance Measures to the ISMSD. Attachment 1 changes will be made as an editorial change since they are jointly determined by the CBFO and WTS apart from the ISMSD annual update process.

WTS will continue to monitor the ISMS processes for adequacy, implementation, and effectiveness in line with both the CBFO and WTS expectations. The core function of "Feedback and Improvement" and the ISM Supplemental Safety Culture Element of "Organizational Learning for Performance Improvement" are expected to drive ISMS

improvements. Many sources of feedback information for improvement are currently available to WTS, including (but not limited to):

- Operational Awareness through Senior Supervisory Watch, work observations, and ongoing interactions.
- Worker Feedback including pre-job briefings, job hazard walk-downs, employee concerns program, safety committees, and bargaining unit input.
- Operating Experience including lessons learned, benchmarking, and best practices from workshops.
- Assurance Systems including issues management, QA assessments, self-assessments, safety oversight assessments, and management assessments.
- Integrated Analysis, which as a newer methodology for safety will be used for performance reviews on safety performance objectives, measures, and commitments in safety programs, identification of performance strengths and weaknesses; integration across programs and feedback processes to identify major areas for attention, and development of safety objectives, measures, and commitments (internal and the CBFO approved for ISM).

9.2 ISM Annual Effectiveness Review

The WTS ISM annual effectiveness review aligns with the following directives and documents:

- DOE G 414.1-B, *Management and Independent Assessments Guide for Use with 10 CFR Part 830, Subpart A*; DOE O 414.AC, *Quality Assurance*; DOE M 450.4-1, *Integrated Safety Management System Manual*; and DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*
- DOE P 450.4, *Safety Management System Policy*
- DOE M 450.1-4, *Integrated Safety Management System Manual*
- DOE G 450.1-4B, *Integrated Safety Management System Guide*, Volumes 1 & 2
- DOE G 450.3-2, *Attributes of Effective Implementation*
- DOE G 450.4, *Tailoring for Integrated Safety Management Applications CBFO Integrated Safety Management System Description*

The annual ISM effectiveness review process using these documents and guidance from the DOE-EM and the CBFO is an essential element of ISM implementation that allows for taking evaluating implementation and making necessary adjustments. The annual ISM effectiveness review is a qualitative review that encompasses multiple elements, including review of self-assessments, oversight review results, integrated

reviews, performance against established performance objectives, measures, and commitments, and other feedback and performance information. Elements of this review may either be completed together as one major annual audit or, ideally, should be ongoing throughout the year culminating in a review report that is based on an annual summary evaluation. The purpose of the annual ISM effectiveness review is to:

- Determine the effectiveness of the ISMS:
 - In complying with requirements
 - In integrating safety into work performance,
 - In supporting the safe performance of work
 - In improving safety performance.
- Identify strengths of ISMS implementation for sharing with other DOE elements to aid improvements at other locations and are shared through the Operating Experience program or ISM workshops.
- Identify weaknesses of ISMS implementation to focus attention on corrective and improvement actions.
- Identify opportunities for improvement in efficiency or effectiveness of the ISMS, and identify actions for continuous improvement.

WTS ISM self-assessments are performed in consonance with the directives listed above, with a view toward the effective interface and integration between the CBFO ISMS and the WTS ISMS. Self-assessments are executed throughout the year by a series of planned management assessments of the WIPP operational and administrative processes. In judging effectiveness, both process measures and outcome measures are considered. Examples of process measures include, but are not limited to:

- Implementation of each ISM function and each ISM Principle
- Integration of ISM with other management systems
- Completion of ISM commitments
- Identification of weaknesses and improvement activities
- Satisfactory performance on process based performance measures
- Positive feedback from oversight reviews

Examples of outcome measures include satisfactory performance on outcome based performance measures, including those related to safe identification of work activities. The actual criteria to be used to determine effectiveness will be based on the DOE directives that specify criteria review and approach documents, any guidance issued by the DOE, including the CBFO, and best practices established within the DOE complex.

In addition, the following Continuing Core Expectation (CCEs) from the DOE ISM Directives are used to guide annual effectiveness reviews.

- CCE-1. The contractor updates the safety performance objectives, performance measures, and commitments, in response to the DOE direction and guidance, so that they reflect and promote continual improvement and address major mission changes, as required. The ISMSD is updated and submitted for approval as scheduled by the contracting officer.
- CCE-2. System effectiveness, evaluated as described in the WTS ISMSD is satisfactory. Safety performance objectives, measures, and commitments are met or exceeded, and they are revised as appropriate for the next year.
- CCE-3. Work activities reflect effective implementation of the functions of the ISMS. Work is defined. Hazards are identified. Actions to prevent or eliminate the hazards are taken. Controls are developed and implemented. Work is properly authorized. Work is accomplished within controls. Appropriate worker involvement is a priority.
- CCE-4. WTS implementing Mechanisms are established and implemented to provide an effective environment for ISM implementation, as embodied in the ISM Guiding Principles and Supplemental Safety Culture Elements. Roles and responsibilities are clear. Line management is responsible for safety. Required competence is commensurate with responsibilities and the technical and safety system knowledge of managers and staff continues to improve.
- CCE-5. WTS budget processes ensure that priorities are balanced. Budget development and change control processes ensure that safety is balanced with production. Facility procedures ensure that production is balanced with safety.
- CCE-6. An effective feedback and improvement process using progressively more demanding criteria is functioning at each level of the organization from the worker and individual activities through the facilities and the sites. Issues management is effective so that issues are identified, evaluated, and closed. Issues identified in the annual ISM effectiveness reviews and ISMS verifications are effectively addressed.
- CCE-7. List A/List B is reviewed and updated, as necessary, at least annually and concurrent with the budget cycle. The process for effecting changes to the standards and requirements identified in the Contract per DEAR List A and List B is being used and is effective. AAs and Authorization Basis documents are maintained current. Changes in agreed upon standards and requirements are included to reflect mission changes. An effective, dynamic process to keep standards and requirements current is apparent.
- CCE-8. Relevant performance records reflect an improving ISMS. Records include routine WTS self-assessment reports, safety oversight reports, independent assessments occurrence reports, and reports from internal and external stakeholders and regulators, and other relevant documentation that

provide evidence as to the status of implementation, integration, and effectiveness of the ISMS. Feedback, improvement and change control of the contractor ISMSD is in place and effective.

9.3 Annual Safety Performance Objectives, Measures, and Commitments Process

The annual safety performance objectives, measures, and commitments are determined by the CBFO and WTS counterparts. This approach ensures that WTS remains responsible to the DOE program and budget execution guidance while maintaining the integrity of the ISMS. The objectives are used to support the DOE expectation for (1) WTS personnel behaviors and attitudes in the conduct of their daily work activities, and (2) operational performance regarding worker injuries and illnesses, regulatory enforcement actions, and environmental releases.

WTS is committed to work such that:

- WTS processes and procedures have clear safety expectations and requirements consistent with a zero accident workplace.
- WTS flows down safety expectations and requirements (including 10 CFR Part 851, safety standards, procedures, etc.) to subcontractors at any tier.
- Work being done at the WIPP site not under direct contract with WTS is controlled by a contractual vehicle or other written arrangement to meet the safety expectations set forth in WP 02-EC.12 and per their own 10 CFR Part 851 plan as applicable (WP 15-GM.02).
- WTS safety personnel will provide effective safety oversight of WTS and WTS subcontractor work.
- The ISMSD will be maintained in accordance with requirements and best practices to afford a foundational level sufficient to ensure safety excellence.
- WTS will achieve the safety performance objectives, measures, and commitments agreed upon with the CBFO in the annual contract process.

Examples of previous performance objectives and measures have included focus on total recordable case rates, and transportation safety goals. New Performance Objectives, Measures, and Commitments are updated as an editorial change each fall when approved by the CBFO, and then included in Attachment 1, as an editorial change without further reviews.

9.4 Annual Declaration Process

Per DOE M 450.4-1, based on all the reviews and assessments conducted during the year, including the annual effectiveness review, WTS is to determine the state of WTS ISM effectiveness: (1) "Effective Performance-ISM is being effectively implemented;"

(2) "Needs Improvement – ISM is being effectively implemented, but noteworthy weaknesses need to be addressed;" or (3) "Significant Weakness- ISM is not being effectively implemented." The basis for this summary evaluation is to be included in the "Declaration" Letter/Report to the CBFO. The declaration should include any immediate corrective or compensatory actions that must or have been taken. It should also include a response to any specific guidance for the annual declaration received from U.S. DOE Office of Independent Oversight, DOE-EM, or the CBFO.

Annual declarations are produced as a joint review effort by the CBFO and WTS to describe the status of WIPP operations as they are managed under ISMS.

10.0 COMPLIANCE REFERENCE LIST

These directives require specific integration of management systems with safety programs providing the overall direction for this ISMSD.

10 CFR Part 851, "Worker Safety and Health Program"

DOE Order 210.1, *Corporate Operating Experience Program*

DOE Order 231.1A, *Environment, Safety, and Health Reporting*

DOE G 414.1-B, *Management and Independent Assessments Guide for Use with 10 CFR Part 830, Subpart A, and DOE O 414.AC, Quality Assurance; DOE M 450.4-1, Integrated Safety Management System Manual; and DOE O 226.1A, Implementation of Department of Energy Oversight Policy*

DOE O 414.1C, *Quality Assurance*

DOE O 450.1A, *Environmental Protection Program*

DOE G 450.1-4B, *Integrated Safety Management System Guide, Volumes 1 & 2*

DOE G 450.3-2, *Attributes of Effective Implementation*

DOE G 450.4, *Tailoring for Integrated Safety Management Applications*

DOE M 450.4-1, *Integrated Safety Management System Manual*

DOE P 450.4, *Safety Management System Policy*

DOE P 470.1, *ISSM Policy*

DOE/CBFO-07-3435, *CBFO Integrated Safety Management System Description*

Attachment 1 – Previous Goals and Performance Measures

FY 2009 Performance Objectives, Measures, and Commitments

Performance Objective	Performance Measure/Commitment
Zero Accidents	Lower the rate of occurrence reportable events by establishing an employee "observation" program based on Human Performance Improvement principles to provide another barrier of defense in preventing accidents.
Reduction of Workplace Injuries	Maintain an acceptable DART rate in comparison to North American Industry Classification System rate system industrial average.
Zero Regulatory Enforcement Actions	Strengthen compliance focus through the implementation of a performance assurance initiative that includes a stronger self-assessment program and focus on assessing HWFP compliance.
Zero Reportable Environmental Releases	Establish and publicize a zero environmental release goal for transportation, CCP sites, and WIPP.

FY 2010 is still in development.