

United States Government

Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

DATE: September 27, 2007

REPLY TO
ATTN OF: CBFO:OOM:RFF:AJC:07-0091:UFC:1410

SUBJECT: Approved Carlsbad Field Office (CBFO) Integrated Safety Management (ISM) System Description

TO: Dae Y. Chung, Deputy Assistant Secretary for Safety Management and Operations, Office of Environmental Management (EM)

On May 25, 2007, Assistant Secretary Rispoli requested each EM field office to prepare and issue for an ISM System Description by October 1, 2007. The CBFO ISM System Description is fully implemented and is enclosed for your use. Assistant Secretary Rispoli's May 25th memorandum indicated that the Office of Safety Management and Operations will collate and transmit the field ISM System Descriptions to the Defense Nuclear Facility Safety Board by November 1, 2007. Also, Dr. Inés Triay has requested field offices to submit to her office by October 30, 2007, their approved ISM System Descriptions as part of their ISM declaration packages.

I approved the CBFO ISM System Description on September 27, 2007. The document uses the EM ISM System Description as a foundation and explains CBFO safety values, objectives, and approach for ensuring protection to the public, worker, and the environment, consistent with DOE Policy 450.4, Safety Management System.

If you have any questions or comments regarding the approved CBFO ISM System Description, please contact me or Lloyd Piper, CBFO Deputy Manager.



Dr. David C. Moody,
Manager

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cc w/attachment

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CBFO INTEGRATED SAFETY MANAGEMENT SYSTEM DESCRIPTION



September 2007

Revision 0

**U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE**

CBFO INTEGRATED SAFETY MANAGEMENT SYSTEM DESCRIPTION

Revision 0

September 2007



Richard Farrell
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Date 26 September 2007



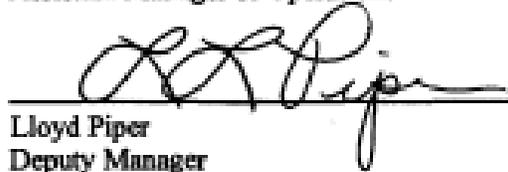
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ACRONYMS

ALARA	As Low as Reasonable Achievable
CAIRS	Computerized Accident Incident Reporting System
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
DART	Days Away Restricted or on Job Transfer
DEAR	U.S. Department of Energy Acquisition Regulation
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DPO	Differing Professional Opinion
DSA	Documented Safety Analysis
ECP	Employee Concerns Program
EM	U.S. Department of Energy Office of Environmental Protection
EMAAB	EM Acquisition Advisory Board
EMS	Environmental Management System
ES&H	Environment, Safety, and Health
EVMS	Earned Valued Management System
FAE	Facility Area Engineer
FEOSH	Federal Employee Occupational Safety and Health
FR	Facility Representative
FRAM	Safety Management Functions, Responsibilities, and Authorities Manual
HQ	Headquarters
HR	Human Resources
IDP	Individual Development Plan
IPP	Individual Performance Plan
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ISMSD	Integrated Safety Management System Description
ISSM	Integrated Safeguards and Security Management
NEPA	National Environmental Policy Act
OPI	Office of Primary Interest
ORPS	Occurrence Reporting and Processing System
PBI	Performance Based Incentive
PD	Position Description
PE	Professional Engineer
POMC	Performance Objectives, Measures and Commitments
PSAR	Preliminary Safety Analysis Report

QAPD	Quality Assurance Program Document
RFP	Request for Proposal
R2A2	Roles, Responsibilities, Authorities and Accountabilities
SAR	Safety Analysis Report
SER	Safety Evaluation Report
SME	Subject Matter Expert
S/R	Standards/Requirements
S/RID	Standards/Requirements Identification Document
STSM	Senior Technical Safety Manager
TQP	Technical Qualification Program
TRC	Total Recordable Cases
TRU	Transuranic
TSR	Technical Safety Requirement
USQ	Unreviewed Safety Question
WP/C	Work Planning and Control

EXECUTIVE SUMMARY

This Integrated Safety Management System Description (ISMSD) defines how the U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) integrates environment, safety, and health requirements and controls into work activities at the Waste Isolation Pilot Plant (WIPP), and oversees implementation of Integrated Safety Management (ISM) into federal and contractor activities. It explains CBFO safety values, objectives, and approach for ensuring protection to the public, worker, and the environment, consistent with DOE Policy 450.4, *Safety Management System*. The ISMSD describes how CBFO conducts work following the seven ISM Guiding Principles and five ISM Core Functions, and also incorporates the four supplemental safety culture elements from DOE 2004-1, *Implementation Plan to Improve Oversight of Nuclear Operations*. This ISMSD also establishes CBFO expectations for establishing and maintaining a safety conscious work environment at all levels of the organization.

Safety is first – it overrides every other priority

The following CBFO safety expectations apply to work performed at WIPP and work done in support of waste receipt:

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

The CBFO safety culture is founded on the following principles and values:

- Each employee is empowered with responsibility for safety.
- Leaders demonstrate commitment to safety.
- Trust towards each other is a foundation of the organization.
- Competent decision-making ensures safety.
- Assumptions are challenged and potential consequences of planned actions are considered by employees with inquisitive attitudes and behavior.
- A disciplined safety (authorization) basis system is developed to ensure all hazards are identified and addressed before work begins.
- Organizational learning is embraced.
- Operations are openly examined and feedback is solicited from internal and external resources.

The CBFO work environment fosters and encourages the open exchange of ideas. This includes raising safety concerns or differing opinions without fear of retaliation. It is fully expected that CBFO staff members will raise safety issues and provide feedback for improving work processes.

CBFO workers are expected to protect themselves and others against accidents. All accidents and incidents are preventable. Careful planning, close attention to hazard controls, worker involvement in task planning, and stopping work in the face of uncertainty allow CBFO to maintain a safe work environment. CBFO staff maintains a high standard of excellence for the organization and associated operations. CBFO management continues to promote safety throughout the work environment.

1.0 INTRODUCTION

The CBFO mission is the management of the National TRU program and safe, quality performance in the characterization, transportation, and disposal of TRU waste at WIPP. The CBFO coordinates the TRU waste program at waste-generating sites, national laboratories, and other participants involved in developing the permanent disposal of this man-made radioactive waste. Included in this mission is the need to:

- Safely dispose contact-handled (CH) and remote-handled (RH) TRU waste in the WIPP underground
- Safely coordinate the National TRU Program (NTP) at waste-generating sites, national laboratories, and other participants involved in the permanent disposal of TRU waste

CBFO is committed to fulfilling its mission in a manner that affords protection of the public, our Federal, contractor, and subcontractor workers, and the environment. CBFO is dedicated to performing its mission in compliance with the statutes enacted by Congress for the protection of workers, the public, and environment, and for exercising good stewardship of public property. This protection is put into operation at all levels (site, facility, task, and activity) by requiring and routinely verifying that work is conducted following the five ISM Core Functions in a manner consistent with the seven ISM Guiding Principles established in DOE Policy 450.4, *Safety Management System Policy*.

This document describes CBFO processes for planning, approving, overseeing, and improving the safe conduct of work as required by DOE P 450.4. This document also integrates the four supplemental safety culture elements from the DOE 2004-1 Implementation Plan with the foundational seven guiding principles. Finally, this document incorporates the expectations of the Assistant Secretary for Environmental Management (EM-1) for maintaining a safety-conscious work environment.

This ISMSD has three areas of focus: (1) define the CBFO management systems to identify ISM execution; (2) describe CBFO Federal staff work activities within the ISM envelope; and (3) describe how CBFO measures ISM effectiveness.

2.0 PURPOSE AND OBJECTIVES

The purpose of this document is to describe DOE/CBFO responsibilities for and approach to implementing the ISMS Objectives, Core Functions, and Guiding Principles established in DOE P 450.4 in all aspects of our work and at all contractor organizational levels. The implementing mechanisms are the CBFO policies, plans, and procedures that guide CBFO activities.

The objective of the CBFO ISMS is to systematically integrate safety into management and work practices at all levels. CBFO accomplishes this objective through effective integration of safety management into all facets of work planning and execution. CBFO management of safety functions and activities is an integral part of mission accomplishment.

2.1 Integrated Safety Management System (ISMS) Overview

DOE established the approach to integrating safety into all aspects of work at its facilities in DOE P 450.4, which 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 (Figure 1). The Objective, Guiding Principles, and Core Functions of safety management are consonant with those used consistently in implementing safety management throughout the DOE complex and are described in the following sections. The Mechanisms, Responsibilities, and Implementation Components, which are unique to the CBFO ISMS, are established according to the type of work and hazards associated with that work. CBFO ISMS Mechanisms, Responsibilities, and Implementation Components are fully described in section 6.

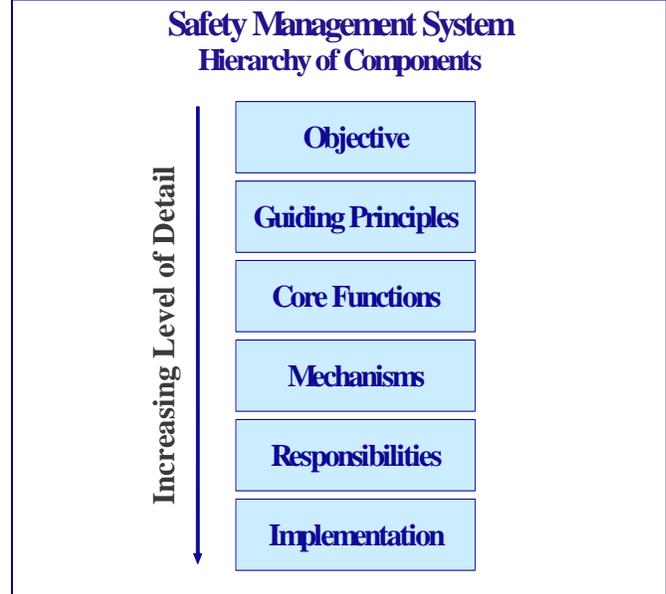


Figure 1. ISMS Components

2.2 Safety Management Guiding Principles

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

1. Line Management Responsibility for Safety: Line Management is responsible and accountable for protection of the public, workers, and the environment.
2. Clear Roles and Responsibilities: Clear and unambiguous lines of authority and responsibility for ensuring safety is documented, communicated, and maintained.
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 public, workers, and the environment is a overriding priority.
5. Identification of Safety Standards/Requirements (S/R): Before work is performed, the associated hazards shall be evaluated, and an agreed-upon set of safety S/R are established, which provide adequate assurance that the public, workers, 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 and associated hazards.
7. Operations Authorization: The conditions and requirements for operations to be initiated and conducted are agreed upon and clearly established.

Based on over 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.

1. Individual Attitude and Responsibility for Safety.

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.

2. Operational Excellence.

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

Guiding Principles and Core Functions

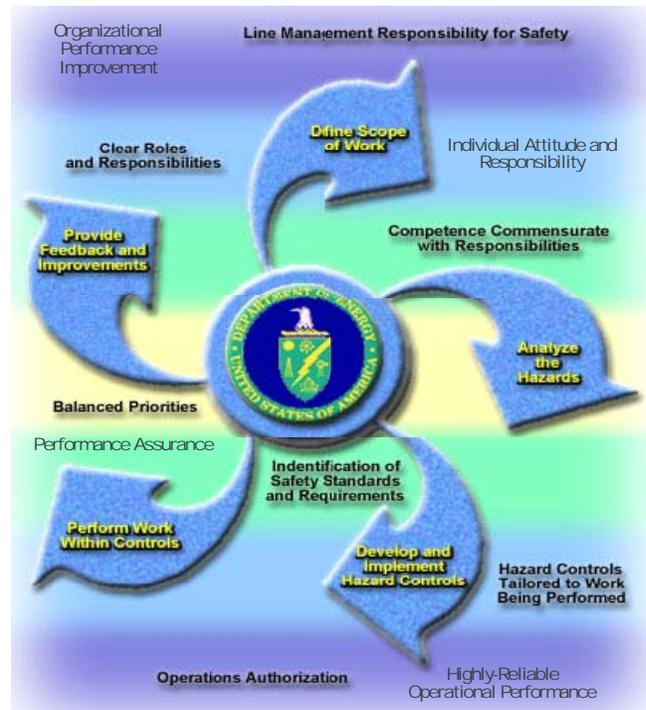


Figure 2. ISM Principles and Functions

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 compliance with standards and requirements. Directed independent reviews at all levels bring fresh insights and observations to be considered for continuous safety and performance improvement.

**We Do Work
Safely . . . Period.**

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.

2.3 Safety Management Core Functions

The five ISM Core Functions established in DOE P 450.4 provide the necessary structure for work activities that pose 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 CBFO ISMS is founded 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 S/R are identified and agreed upon; controls to prevent/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.

2.4 Responsibilities for Safety Management

CBFO safety management responsibilities are clearly defined in the CBFO *Safety Management Functions, Responsibilities, and Authorities Manual* (FRAM) (DOE/WIPP 98-2287) and section 6.0 of this ISMSD.

2.5 Implementation of Safety Management

Section 6.0 specifies safety implementation actions, performance objectives, measures and commitments (POMC), systems, and attributes.

3.0 CBFO MANAGEMENT COMMITMENTS AND EXPECTATIONS

A strong safety culture is highly dependent on an environment of continuous learning. CBFO operates multiple learning and communication processes to capture and share project and safety knowledge. The CBFO 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 – CBFO behaviors and values making safety its overriding priority.
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 to an open learning atmosphere. CBFO’s safety culture represents the sum of the organization’s learning as it deals with lessons learned, assessments, issues, and continuous improvement. Section 6.0 shows how CBFO utilizes its management systems to leverage learning and knowledge.

The CBFO management team establishes and implements management systems that ensure work is performed safely at all sites, by both Federal and contractor staff, in a safety-conscious work environment. The CBFO management team supports the goal of a “Zero Accident Policy,” and strives to control hazards in the following ways:

- “Lead by example” by placing safety first at all times to achieve a safety-conscious work environment and incident-free workplace;
- Recognize safety is a collective responsibility where managers and employees create an atmosphere fostering worker personal responsibility for improving work processes;
- Support clear roles, responsibilities, and authorities between Headquarters and CBFO;
- Be self-critical, perform self-assessments, and solicit external feedback to achieve continuous improvement;
- Ensure technical capabilities are in place to fulfill safety responsibilities;
- Establish effective Performance Objectives, Measures and Commitments (POMCs) to monitor and evaluate actual performance against the performance objectives;
- Maintain a lessons-learned and operating experience program, and continually learn from experience;
- Monitor and assess safety performance, and require the completion of corrective actions in a timely manner;
- Commit to safety by demonstrating a zero-accident safety culture; and
- Respect a clean, healthy environment and require environmental considerations (understanding the impact of an action to the environment) to be an integral part of our mission.

The following are management's safety expectations for each CBFO federal employee:

- Maintain a questioning and inquisitive attitude;
- Show a willingness to pause, ask questions, gather additional data, and obtain answers, rather than proceed in the face of uncertainty;
- Raise concerns and issues directly to management;
- Make decisions that consider safety before production, cost, and schedule;
- Perform needed oversight to strengthen safety and improve performance; and
- Achieve excellence.
- As managers, communicate expectations, changing requirements, and feedback.

4.0 SAFETY PERFORMANCE OBJECTIVES, MEASURES, AND COMMITMENTS (POMCs)

CBFO measures safety performance by evaluating performance against rigorous safety objectives and goals. We evaluate safety performance results against baseline objectives to determine the success of our safety culture. CBFO develops indicators to measure the effectiveness of its management systems. The following are some examples of the objectives and measures used by CBFO to monitor its management systems:

- The CBFO FRAM is updated as required;
- CBFO management ensures acquisitions incorporate relevant safety requirements;
- The CBFO ISMSD is reviewed annually and updated as necessary;
- Individual Performance Plans (IPPs), Individual Development Plans (IDPs), and Position Descriptions (PDs) are reviewed and revised annually;
- 90% or greater of planned employee training is completed on schedule;
- Delegations of authority are reviewed as necessary;
- CBFO management adjusts budget priorities to address safety concerns (as necessary); and
- CBFO work is completed per planned commitments.

POMCs applicable to the ISM Guiding Principles are discussed in section 6.0.

CBFO contractors track their safety performance against prescribed safety measures. CBFO contractors are also responsible for flowing down safety requirements to their subcontractors. Safety events and statistics are reported to DOE corporate information systems where CBFO monitors performance. Some of the types of indicators tracked by Headquarters through the Occurrence Reporting and Processing System (ORPS) and the Computerized Accident Incident Reporting System (CAIRS) to monitor safety performance include:

CBFO Safety Performance Indicators

- Significant Injuries
- Near Misses
- Operational Safety
- Occupational Safety/Industrial Hygiene
- Fire Protection
- Electrical Safety
- Authorization Basis
- Nuclear Criticality
- Radiological Control
- Conduct of Operations
- Quality Assurance
- Equipment Degradation/Failure
- Environmental Release
- Total Recordable Cases (TRC) Rate
- Days Away Restricted or on Job Transfer (DART) Case Rate, and
- ORPS Normalization Charting Using EVMS – as it applies to CBFO and WIPP

WIPP occurrences are monitored on a daily basis through the EM Event Notification System, the ORPS, and periodic teleconferences during Plan of the Day meetings.

5.0 ROLES AND RESPONSIBILITIES

The CBFO supports the timely execution of the WIPP mission through planning, project management oversight, contract management, technical support, monitoring, and operational surveillances and audits. Detailed information on CBFO federal staff responsibilities and authorities is included in the CBFO FRAM.

The CBFO has fundamental roles and responsibilities that lead to several basic categories for oversight of contractors, with some oversight applicable to multiple categories. A discussion of these roles and responsibilities is detailed in DOE/WIPP 98-2287, *Safety Management Functions, Responsibilities, and Authorities Manual* DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*, including ISMS functional areas, as summarized below. This

CBFO Manager

Establishes the oversight and performance expectations for the CBFO and has ultimate responsibility for the timely execution of the program.

CBFO Deputy Manager

Supports and acts for the Manager in carrying out the Manager's responsibilities and authorities by serving as the CBFO Chief Operating Officer; establishes goals, objectives, and metrics for oversight and performance expectations; and performs the duties of the Contracting Officer Representative.

CBFO Authorization Basis Senior Technical Authority (ABSTA)

Integrates and oversees the implementation of the WIPP Integrated Safety Management System (ISMS), emphasizing continuous improvement of the WIPP safety practices and culture.

CBFO Quality Assurance Manager

Has the authority and overall responsibility to independently assess the effective implementation of the CBFO QAPD, both within the CBFO organization and in organizations supporting the CBFO.

CBFO Contracting Officer Representative

Monitors activities of technical compliance, administration and funding, property management; assists in closeout of contracts; and provides written technical direction to the contractor. Technical direction does not include certain restrictions listed in DOE/CBFO 04-3299.

CBFO Contracting Officers

Responsible for administering and monitoring contracts to ensure that the contractor conducts work in accordance with contract terms and conditions. May issue stop work orders in accordance with contract Section F.5.

CBFO Assistant Manager and Office Directors

Provide supervisory, administrative, and program direction for the federal staff in their offices.

CBFO Federal Staff

When designated, perform the duties of technical monitors for contract performance in specific areas of the contract.

CBFO Facility Representative

Represents DOE senior management in providing routine oversight of site operations. Monitors operations to ensure the facility is operated safely; provides early identification of vulnerabilities; ensures that off-normal events are reported and the contractor is effectively controlling operations; maintains effective lines of communication between the CBFO Manager, Deputy Manager, Assistant Manager, Office Directors, CBFO staff, and the contractor. Supports any emergency response.

5.1 Federal Work Scope Responsibilities

CBFO's management role in assuring safety is defined in the mission and function statements of the organization and is carried out by the Federal staff. Examples of Federal work requirements to assure safety as defined in DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*, DOE P 226.1, *DOE Oversight Policy*, and DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*, and measured in mission activities include:

- Coordinating EM mission priorities and implementing WIPP's mission plans
- Prioritizing and acquiring resources and executing contracts
- Developing annual budgets and communicating field work priorities
- Assigning safety management roles, responsibilities, and requirements

- Establishing a positive safety environment through effective ISM implementation
- Implementing management systems for Federal operations
- Reviewing project baseline plans and evaluating cost/schedule performance
- Developing performance baseline incentives (PBI) for contractor performance
- Establishing quality program requirements
- Development and submittal of documented safety analysis reports and technical safety requirements
- Coordination of authorization agreements and safety basis
- Performing assessments, self-assessments, and management observations
- Performing annual ISM effectiveness reviews
- Preparation and review of WIPP's ISM readiness declarations
- Performing issues management and overseeing corrective action closure
- Establishing performance metrics and evaluating the contractor safety performance goals

This ISMSD facilitates focus on safety management and continual improvement for the federal staff at WIPP. WIPP accomplishes safety improvement through effective leadership, training, making safety the central core of organizational actions, and implementing effective management systems.

5.2 Contractor Expectations

48 Code of Federal Regulations (CFR) 970.0470-2, paragraph c of the DEAR clause states, "Environmental, safety, and health (ES&H) requirements appropriate for work conducted under this contract may be determined by a DOE approved process to evaluate the work and the associated hazards and identify an appropriately tailored set of standards, practices, and controls, such as a tailoring process included in a DOE approved Safety Management System implemented under the clause entitled "Integration of Environment, Safety, and Health into Work Planning and Execution."

When such a process is used, the set of tailored (ES&H) requirements, as approved by DOE pursuant to the process, shall be incorporated into List B as contract requirements with full force and effect. These requirements shall supersede, in whole or in part, the contractual environmental, safety, and health requirements previously made applicable to the contract by List B. If the tailored set of requirements identifies an alternative requirement varying from an ES&H requirement of an applicable law or regulation, the contractor shall request an exemption or other appropriate regulatory relief specified in the regulation."

6.0 IMPLEMENTATION OF ISM

Implementation of the CBFO ISMS ensures DOE systematically integrates safety into work planning. CBFO implements the requirements of ISM through a comprehensive set of policies, project planning, regulations, and contracts. In addition, the safety requirements of DOE P 450.4, *Safety Management System Policy*, and DOE G 450.4-1B, *Integrated Safety Management System Guide for use with Safety Management System Policies*, are applied within each prime contract (see Figure 3).

6.1 Approach for Executing ISM Principles

The benefit of the 11 ISM principles (seven original plus four supplemental) and five 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 CBFO implementation of the safety principles and functions, the management systems installed to execute the desired safety, and the expected organizational attributes and outcomes. Each principle has an associated implementation discussion using the following template:

- Attributes and Expected Outcomes
- CBFO Management Systems Used to Execute Outcomes
- Supplemental Management Actions to Enhance the WIPP Safety Culture
- Applicable Performance Objectives, Measures and Commitments (POMC)
- CBFO Policy and Procedural Documents for Each System

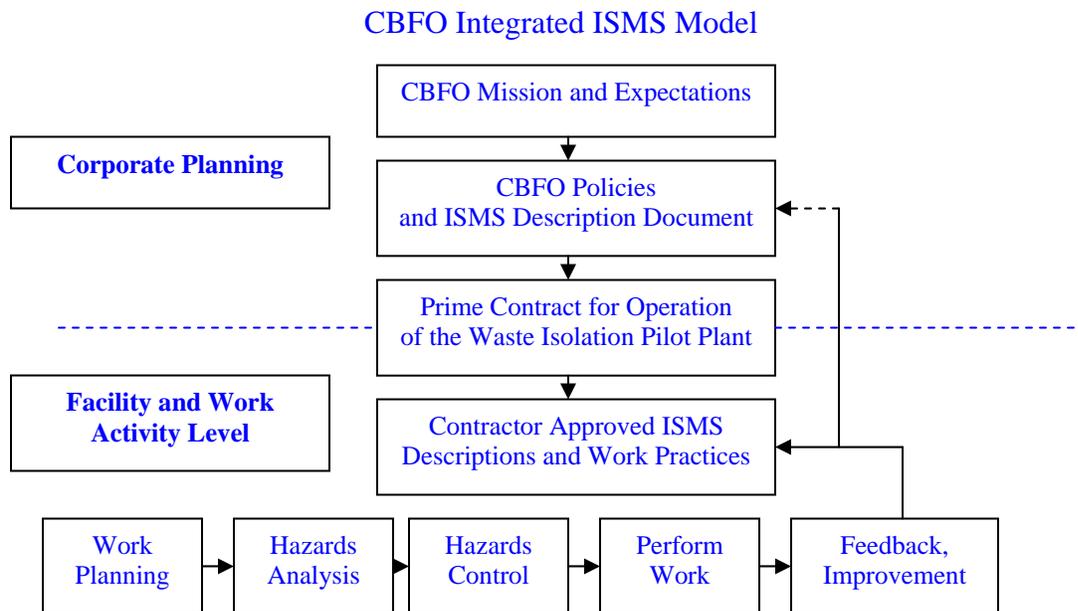


Figure 3. CBFO Integrated ISMS Model

The CBFO management systems are the primary instruments for implementing the safety principles. The management systems (also referred to as programs and plans) define the practices, techniques, and tools used by CBFO to meet the project requirements. The CBFO management systems are “living” and progressive. The systems are adjusted over time to accommodate new requirements, lessons learned, and feedback for improvement. As such, the systems discussed herein are being enhanced along with the ISMSD.

The following list identifies current CBFO management systems. The systems have been grouped into common CBFO functional areas to facilitate their assignment to the guiding principles. All of the

following functional areas, and therefore management systems, are not discussed in this document. If a functional area is assigned to a guiding principle, then all of its associated management systems are also assigned to the guiding principle. The functional areas applicable to the guiding principles are identified in both Table 1 and the remainder of this section.

Functional Areas

1. Acquisition of Services and Products

- QA Program Requirements for Procurement of Services
- Financial Management System
- CBFO Risk Management Plan

2. Assessment and Oversight Program

- CBFO Contractor Oversight Plan
- Management Assessments
- Operational Assessments

3. Continuity of Operations

4. Engineering and Technology Program

5. HR Management System

- Federal Technical Capability Program
- Personnel Qualification and Training Program
- Technical Qualification Program Plan

6. Information Technology Management

- Unclassified Network Computing Environment Security Plan

7. Policy Development

8. Project Management Systems

- CBFO Program Execution Plan
- Programmatic Change Control Plan
- Project Control System

9. Safeguards and Security

- Cybersecurity
- Integrated Safeguards and Security Program
- Emergency Operations Program

10. Safety and Health Management

- CBFO Functions, Responsibilities, and Authorities Manual
- Integrated Safety Management System
 - Annual ISM Declaration
 - Annual ISM System Description
 - Annual Performance Expectations and Performance Objectives
 - Annual Review of ISM Implementation
 - Authorization Agreement
- Employee Concerns Program
- Environmental Compliance
 - Environmental Management System
 - National Environmental Policy Act Compliance Program
- Federal Employee Occupational Safety and Health (FEOSH) Program
- Quality Assurance Management System
 - Quality Assurance Program Document (QAPD)
- Safety Basis Management System

11. Transportation Management Systems

- Contact-Handled Waste
- Remote-Handled Waste

12. Waste Management Systems

- WIPP Hazardous Waste Facility Permit
- National TRU Waste Management Plan

Table 1. CBFO Safety Management Systems to Execute ISM Principles

ISMS Guiding Principles	Supplemental High-Reliability Principles	ISM Core Functions	CBFO Safety Culture	CBFO Management Systems to Execute Principles
Line Management Responsibility	Highly-Reliable Operational Performance	*All Core Functions apply to these 5 Principles	<ul style="list-style-type: none"> • Leaders demonstrate commitment to safety 	<ul style="list-style-type: none"> • Project Management System • Assessment and Oversight Programs • ISMS
Clear Roles and Responsibilities	Individual Attitude and Responsibility		<ul style="list-style-type: none"> • Everyone is responsible for safety • Trust permeates the organization 	<ul style="list-style-type: none"> • CBFO FRAM and ISMS • Human Resource Management • Employee Relations
Competence to Perform Responsibilities			<ul style="list-style-type: none"> • Organization learning is embraced • A questioning attitude is cultivated 	<ul style="list-style-type: none"> • Training and Qualifications Programs • Federal Technical Capability Program • HR Performance Recognition Program • Minority/Differing Professional Opinion • Lessons Learned
Balanced Priorities	Performance Assurance	1. Define Scope of Work 2. Identify and Analyze Hazards	<ul style="list-style-type: none"> • Decision-making reflects safety first 	<ul style="list-style-type: none"> • ISMS
Identification of Safety Standards Tailor Hazard Controls to Work		3. Develop and Implement Hazard Controls	<ul style="list-style-type: none"> • Nuclear operations are special and unique and require disciplined controls 	<ul style="list-style-type: none"> • Safety Basis Management System • Authorization Basis Management • ISMS Annual Declaration Process
Operations Authorization	Organizational Performance Improvement	4. Perform Work Within Controls 5. Feedback and Continuous Improvement	<ul style="list-style-type: none"> • Safety undergoes constant examination 	<ul style="list-style-type: none"> • Employee Concerns Program • Quality Assurance Program • Safety and Health, Security • Performance Evaluation System • Lessons Learned, Self-Assessment Program

6.1.1 Principle 1: Line Management Responsibility for Safety

An effective safety management system must ensure that line management is directly responsible for the protection of the public, the workers, and the environment.

CBFO develops and implements effective management systems to ensure line management is directly responsible for the protection of the public, the workers, and the environment.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO line managers “lead by example,” and understand and accept their safety responsibilities.
- CBFO management demonstrates a commitment to safety.
- CBFO has a safety-conscious workplace.
- Corrective actions are implemented in a timely manner.
- CBFO managers have a clear understanding of work activities and objectives.
- Managers practice visible leadership by coaching, mentoring, performing periodic safety reviews with federal and contractor management, and reinforcing standards.
- Managers perform effective oversight of the activities at WIPP and conduct self-assessments.
- Managers participate in weekly calls, monthly reports, and quarterly reviews with EM-HQ to maintain corporate awareness.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Project Management Systems
- CBFO FRAM
- Assessment and Oversight Program
- Safety and Health Management

System Policies and Procedures

- DOE/CBFO 03-3293 - *CBFO Program Execution Plan*
- CBFO-95-1122, *Programmatic Change Control Plan*
- DOE/WIPP 04-3300, *Project Control System Description*
- DOE/WIPP 98-2287, *Safety Management Functions, Responsibilities, and Authorities Manual*

Performance Measures and Commitments

- Safety Performance Elements incorporated in senior management performance plans.
- Safety Performance Elements incorporated in safety professional performance plans.
- ISMSD updated annually.
- Safety Performance is monitored, assessed, and reported to EM-HQ in the CBFO Quarterly Performance Review.

6.1.2 Principle 2: Clear Roles and Responsibilities

An effective safety management system must ensure that clear and unambiguous lines of authority and responsibility for safety are established and maintained at all organizational levels within the DOE and its contractors.

CBFO ensures clear and unambiguous lines of authority and responsibility for safety through assigning responsibilities in the CBFO FRAM, through formal delegation of authority, and by implementing effective safety management systems. CBFO sets direction for expectations and mission and communicates this to the contractor.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- The lines of authority and responsibility for safety are defined for each organization (CBFO FRAM).
- All federal and contractor staff (employees) understand his/her job responsibilities, objectives, authorities, and areas of required training.
- Employees understand the importance of adhering to safety standards.
- Employees offer innovative ideas to help solve problems and improve operations.
- 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.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- CBFO FRAM
- Human Resources Management System
- Safety and Health Management System

System Policies and Procedures

- DOE/WIPP 98-2287, *Functions, Responsibilities, and Authorities Manual*
- DOE/CBFO 02-3219, *Technical Qualification Program*
- DOE M 450.4-1, *Integrated Safety Management System Manual*
- DOE O 320.1, Change 1, *Acquiring and Positioning Human Resources*

Performance Measures and Commitments

- CBFO FRAM is updated as required.
- IPPs, IDPs, and PDs are reviewed and revised annually.
- Regular Federal Occupational Safety and Health Program meetings.
- Highlighted FEOSH office inspections to improve housekeeping, locate/remove unsafe equipment (unstable bookshelves, floor heaters without safety features, etc.) and improve ergonomics for the workers.
- All CBFO personnel will be given training and/or the opportunity to read the CBFO ISMSD.

6.1.3 Principle 3: Competence Commensurate with Responsibilities

An effective safety management system must ensure that personnel possess the experience, knowledge, skill, and abilities necessary to discharge their responsibilities.

CBFO maintains experts in safety on the staff and the CBFO Technical Assistance Contractor (CTAC), including Certified Industrial Hygienists (CIH), Certified Safety Professionals (CSP), Certified Health Physicists (CHP), and Professional Engineers (PE), who prepare policy, determine requirements, perform oversight inspections, and augment field staff for reviews, approvals, and oversight. CBFO provides resources for staff development, both in CBFO and through CTAC. CBFO has processes to ensure that staff are qualified in their areas of responsibilities. CBFO evaluates field staff and determines delegation authority based on competence. To ensure personnel possess the experience, knowledge, skill, and ability necessary to discharge their responsibilities, CBFO has implemented effective human resource management systems that identify needed skills, evaluate the employees skills, identify skill gaps, and arrange for training to eliminate the gaps. CBFO encourages professional certification and supports education and certification fees that include but are not limited to CIHs, CSPs, CHPs, and PEs.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO recognizes employees are its most valuable asset and has a robust training program that ensures employees' technical capabilities are current.
- Key resources are recruited, selected, and retained within the organization.
- Continuous learning is sustained through definitive training and qualification programs.
- Assignments and delegations of safety are made to individuals with the necessary technical expertise and experience.
- Training upholds management standards and expectations.
- CBFO employees are informed of the underlying lessons learned from significant industry events provided through a centralized DOE corporate lessons learned program.
- CBFO federal staff are systematic and rigorous in performing reviews and approvals that support safe, reliable disposal operations, environmental cleanup, and facility operations.
- CBFO cultivates a questioning attitude in its employees.
- CBFO has knowledgeable employees able to make a broad spectrum of project, operational, and technical decisions.
- CBFO employees investigate and analyze anomalies.
- Decisions and associated assumptions are reviewed against new facts/data to improve the quality of future actions.
- Candid dialogue and debate are present during the evaluation of safety issues.
- Differing opinions are welcomed and respected; CBFO employees have the freedom to raise differing professional opinions.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Safety and Health Management
- Human Resources Management Systems

System Policies and Procedures

- DOE O 360.1B, *Federal Employee Training*
- DOE O 331.1B C1, *Employee Performance Management System*
- DOE/WIPP 98-2287, *Safety Management Functions, Responsibilities, and Authorities Manual*
- DOE/CBFO 02-3219, *Technical Qualification Program*
- DOE/CBFO-94-1012, *Quality Assurance Program Document*

Performance Measures and Commitments

- Review as necessary qualifications and appropriateness of delegation.
- Technical Qualification Program requirements have been met for all safety subject matter experts (SMEs).
- Senior managers will be trained as Senior Technical Safety Managers (STSMs).

6.1.4 Principle 4: Balanced Priorities

An effective safety management system 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.

The CBFO follows the priorities set for all of EM 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, with an emphasis on site closures. EM HQ both sets priorities and communicates them to field offices for implementation. EM HQ will annually review the EM five-year plan for CBFO and adjust to the budget management concerns and safety priorities affecting the program. CBFO performs compliance audits to assure EM HQ that field actions are performed in accordance with EM priorities. CBFO ensures appropriate allocation of resources to address safety, programmatic, and operational considerations. Project management systems in DOE O 413.3 are in place to guide, monitor, and evaluate work scope performance. Activities needed to protect the public, workers, and the environment are funded as top priorities.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- Project management systems are in place to plan the mission and evaluate performance.
- Safety and quality concerns receive full consideration in funding/schedule decisions.
- System checks and balances ensure safety considerations are adequately weighed and prioritized.
- CBFO conducts regular project and program reviews to assess technical, cost, schedule, and safety performances.

- Safety and quality requirements are incorporated into acquisitions.
- Safety and quality are incorporated into projects and activity reviews specific to technology development and implementation.
- CBFO informs EM-HQ of significant safety issues in a timely manner.
- CBFO coordinates budget priorities with EM-HQ to address safety issues as necessary.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Financial Management
- Safety and Health Management
- Acquisition of Services and Products
- Engineering and Technology Program
- Project Management System
- Human Resources Management System

System Policies and Procedures

- 10 CFR 851, *Worker Safety and Health*
- DOE O 413.3, Change 1, *Program and Project Management for the Acquisition of Capital Assets*
- DOE/CBFO 04-3293, *CBFO Program Execution Plan*
- DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*
- DOE/WIPP 04-3300, *WIPP Project Control System Description*
- DOE/WIPP 04-3303, *WIPP Cost Estimating Guide*
- MP 7.1, *QA Requirements for Procurement of Services, Current Revision*

Performance Measures and Commitments

- CBFO management will ensure the technical reviews of capital projects with EM-HQ consider safety requirements and conditions.
- CBFO will ensure that acquisitions incorporate relevant safety requirements.
- CBFO will annually review the EM five-year plan and request adjustments to the budget management of concerns and safety priorities affecting the program.

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.

DOE has directives, guides, and manuals that are carefully applied in work planning. EM identifies applicable DOE directives and provides EM supplements, as needed. EM provides leadership in the Directives Process, originating, issuing and revising directives, orders, and policies that protect employee health and safety, as well as that of contractors, the general public, and the environment.

The EM Office of Primary Interest (OPI) provides unique guidance on inactive wastes and for transportation issues related to hazardous materials and wastes. EM participates in the RevCom process to be sure that EM needs are addressed. EM's Source Selection Board reviews requests for proposals (RFP) prior to issuance to ensure adequate identification of hazards on List B and applicable safety standards and requirements, and provides contract reviews. EM HQ reviews and either disallows or recommends approval for contractor-submitted variance requests under 10 CFR 851. The EM Acquisition Advisory Board (EMAAB) is charged with identifying safety standards and requirements early in the acquisition process. EM ensures that safety requirements are established and approved for each project's safety basis.

CBFO provides implementation of orders compliance and oversight of standards and requirements through contract provisions, DOE contractor requirements documents, the standards/requirements identification document (S/RID) process, and impact assessments on WIPP operations.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- Clearly established technical safety directives are enabled and implemented at WIPP.
- Clearly defined safety requirements are incorporated into operation and construction contracts.
- Respond to additional safety requirements to manage critical safety functions as identified.
- Submit safety basis for EM-HQ review and approval.
- CBFO implements and oversees contracts to ensure safety performance.
- CBFO submits requests for deviation or waivers from design and operating margins based on thorough analysis of safety requirements.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Project Management System
- Policy Development
- Safety and Health Management
- Acquisition Services and Products

System Policies and Procedures

- Correct determination of List A/List B requirements, DEAR contract clause 970.5204.
- 10 CFR 830 *Nuclear Safety Management*
- DOE O 251.1B, *Departmental Directives Program*
- DOE/CBFO 04-3293, *CBFO Program Execution Plan*
- DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*
- DOE/WIPP 04-3300, *WIPP Project Control System Description*
- CBFO 95-1122, *Programmatic Change Control*
- MP 4.11, *Safety Basis Review Procedure*

Performance Measures and Commitments

- Safety basis reviews are performed in accordance with MP 4.11, *Safety Basis Review Procedure* by the CBFO Authorization Basis Senior Technical Advisor (ABSTA).
- Orders compliance activities will capture, identify, assess, and incorporate relevant DOE directives, federal regulations, and other applicable instruments applicable to the management and operation of WIPP.

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.

CBFO must balance risk and mission to accomplish environmental goals for DOE. CBFO oversees, requires, approves, and tracks work progress and recommends hazards controls, based on DOE standards, expert knowledge, trends analysis, and risk assessment. CBFO provides concurrence on proposed controls and oversight of all projects. This function is typically delegated to CBFO by EM HQ.

Where not delegated, CBFO participates in development, reviews, and approval of safety evaluation reports (SERs). CBFO reviews operating experience data to identify problems in the field and performs operational oversight to evaluate implementation of hazard controls in the field and confirm that work is performed within the scope of the project. CBFO has responsibility to review transportation controls for hazardous materials and packages.

The EM Office of Safety Management develops, coordinates, and implements technical standards specific to the work performed under CBFO. CBFO requires contractor administrative and engineering controls to prevent and mitigate hazards tailored to the work being performed.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO work will be performed within the controls specified in the authorization basis documentation.
- CBFO work hazard analyses will be based on sound engineering data and judgment.
- CBFO work is designed/controlled to eliminate the hazards.
- Work is not performed until the hazard analysis is complete and potential threats are addressed.
- CBFO will provide sufficient oversight to ensure controls within the authorization basis adequately address known hazards.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Safety and Health Management
- Assessment and Oversight Program
- Waste Management Systems

System Policies and Procedures

- 10 CFR 830, 835, 850 and 851 DOE safety regulations
- 29 CFR 1910, *Occupational Safety and Health Standards for General Industry*
- 29 CFR 1960, Department of Labor safety regulations
- DOE O 440.1B *Worker Protection Management for DOE Federal Employees*
- DOE O 450.1, *Environmental Protection Program*
- DOE/CBFO 04-3293, *CBFO Program Execution Plan*
- DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*
- DOE/WIPP 04-3300, *WIPP Project Control System Description*
- DOE/NTP – 96-1204 *National TRU Waste Management Plan*
- NM 48909 399088-TSDF, *WIPP Hazardous Waste Facility Permit*

Performance Measures and Commitments

- CBFO will perform multiple assessments of themselves to ensure the adequacy of WIPP's oversight programs.
- CBFO will perform multiple assessments of CBFO contractors to ensure work is performed within appropriate controls.
- CBFO will regularly review and assess Authorization Basis documentation for WIPP.

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 be clearly established and agreed on.

An ISMS is a process to confirm adequate preparation, including adequacy of controls, prior to authorizing all work, including nuclear and non-nuclear, to begin at the facility, project, or activity level. DEAR 970.5223-1(b)(7) requires that 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 and are therefore binding upon the contractor. The formality and rigor of the review process and the extent of documentation and level of authority for agreement should be based on the hazard and complexity of the work being performed. The process should ensure programs addressing all applicable functional areas are adequately implemented to support safe work performance.

EM reviews the CBFO SER approvals. CBFO apprises EM HQ personnel of all facility activities through weekly teleconferences, monthly reports, and periodic EM HQ site visits and inspections. Safety is integrated into the design basis for acquisitions. The EM Safety Basis Management System requires the safety standards, facility conditions, and requirements to be fully satisfied for construction and/or operations to begin. Throughout WIPP, CBFO coordinates with outside authorities, such as Price Anderson Enforcement and Defense Nuclear Facilities Safety Board (DNFSB) to ensure regulatory compliance and improve safety.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO provides operational oversight to strengthen facility safety and improved operational performance.
- CBFO addresses new and emerging concerns by use of a comprehensive set of reviews and assessments to oversee safe and efficient operation of facilities, including self-assessments lessons learned, employee concerns, QA reviews, operational assessments, and independent oversight.
- CBFO senior management receives timely briefings of oversight progress and findings.
- Complete, accurate, and forthright information is provided to external oversight, audit, and regulatory organizations.
- Employees are confident nuclear safety issues are prioritized, tracked, and resolved in a timely manner.
- CBFO distributes lessons learned to share significant safety items with the Federal staff to eliminate repeat mistakes.
- CBFO welcomes input from staff on potential technical and safety concerns; employees can submit these without fear of retaliation.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Engineering and Technology Program
- Safety and Health Management

System Policies and Procedures

- DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis*
- 10 CFR 830, *Nuclear Safety Management*
- 10 CFR 851, *Worker Safety and Health*
- CBFO ISMS Authorization Agreement
- CBFO Contract DE-AC29-01AL66444

Performance Measures and Commitments

- CBFO will ensure that technical solutions consider a safety basis that reduces risk to as low as reasonably achievable (ALARA) to workers, the public, and the environment.
- CBFO will complete 100% of Federal corrective actions by the committed date.
- CBFO will distribute key lessons learned within 30 days of receipt.
- Zero CBFO Federal staff recordable accidents and injuries in a fiscal year.
- Zero CBFO security infractions for Federal staff in a fiscal year.
- CBFO Authorization Agreements are reviewed annually to ensure requirements and project information is current.

6.1.8 Principle 8: Individual Attitude and Responsibilities for Safety

Every CBFO 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.

Each CBFO staff member understands his/her role in performing work in a safe manner. The goals and mission of CBFO are communicated regularly to all staff and each has opportunities to support this mission and to raise questions concerning implementation. Each staff member has a stop work authority if a situation arises that causes an employee to have a reasonable belief that an immediate threat to health or safety exists and several systems exist for employees to report concerns about work-related hazards. CBFO tracks these reporting systems to ensure that resolution is timely. This attention communicates CBFO's commitment to safety and encourages employee involvement. CBFO participates in the DOE FEOSH Program (DOE/CBFO 94-1051), which provides workplace inspections, safety communications and training to Federal workers.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO employees understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's actions and deeds.
- CBFO employees are actively involved in identification, planning, and improvement of work and work practices. They follow approved procedures. They can stop unsafe work at any level or during unexpected conditions.
- CBFO employees promptly report errors and incidents. They feel safe from reprisal in reporting errors and incidents; they offer suggestions for improvements.
- CBFO employees maintain a questioning attitude toward safety and are intolerant of conditions or behaviors that have the potential to reduce operating or design margins.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Safety and Health Management System
- Human Resources Management System
- CBFO FRAM

System Policies and Procedures

- DOE M 450.4-1, *Integrated Safety Management System Manual*
- DOE O 360.1B, *Federal Employee Training*
- DOE O 331.1B C1, *Employee Performance Management System*
- DOE/WIPP 98-2287, *Functions, Responsibilities, and Authorities Manual*
- DOE/CBFO 02-3219, *Technical Qualification Program*
- DOE/CBFO 94-1051, *Federal Employee Occupational Safety and Health Program*

Performance Measures and Commitments

- Ensure a safe and healthful workplace for Federal employees
- Integrate the safety management system into all CBFO activities
- Ensure zero recurring safety violations during periodic safety inspections
- Have zero recordable injuries, lost work hours, and fatalities
- Frequently monitor the workplace to identify existing or potential hazards
- Ensure appropriate training and orientation of newly assigned employees
- Notify Safety Officer of any reportable concerns
- Ensure that the appropriate safety equipment is available to employees
- Encourage employees to speak up on issues relating to safety and health
- Listen to and seriously regard all safety and health concerns and questions raised by employees

6.1.9 Principle 9: Operational Excellence

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

CBFO 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. Close communications are a key. CBFO holds its personnel to high standards of performance and utilizes the expertise of its staff to ensure appropriate levels of review, analysis, and decision-making. CBFO provides incentives for operational excellence in the contract language it prepares and in the oversight of contractor performance. A major initiative in operational excellence is the accelerated site cleanup schedule and safe performance by contractors. This is rewarded with increased contract fees, as specified in language written and approved by EM HQ. CBFO also rewards employees who achieve significant milestones in improving safety. CBFO supports participation in VPP as recognition of safety excellence.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO is 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.
- CBFO employees provide prompt attention and evaluation to operational anomalies, even small ones – this allows early detection of problems so necessary action is taken before problems grow.
- CBFO employees are systematic and rigorous in making informed decisions that support safe, reliable operations. Line managers support and reinforce decisions based on available information and risks.

- CBFO organizational systems and processes are designed to provide layers of defenses, recognizing that people are fallible.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Safety and Health Management
- Human Resources Management Systems
- Assessment and Oversight Program
- CBFO FRAM

System Policies and Procedures

- DOE O 226.1, *Implementation of Department of Energy Oversight Policy*

Performance Measures and Commitments

- Ensure contracts are written with clear scopes of work, definitions, requirements, and performance expectations
- Ensure operational performance metrics to achieve key elements of the contract are mutually agreed upon by DOE and the contractor
- Clearly establish the expectation of a rigorous and effective contractor self-assessment and improvement program
- Apply a graded DOE oversight program prioritized on the contractor's performance and on risk/issues in the functional areas

6.1.10 Principle 10: 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.

CBFO provides extensive performance assurance oversight through several mechanisms, including Readiness Assessments (RAs), oversight inspections, assessments, SER reviews and QA reviews. CBFO fully supports and expects all employees and contractors to use the ORPS, CAIRS, and NTS reporting systems to provide timely reporting of occurrences, and tracks these to ensure that appropriate action is taken.

Periodic reports detail progress and any problems in project performance. Independent oversight is carried out by qualified CBFO staff and CTAC personnel to review documentation and conduct field surveillances, assessments, and audits of operations. Facility Representatives (FRs) perform daily oversight of operations and ensure the facility is operated safely, the environment is protected, and that operations are conducted within DOE regulations and rules. CBFO performance achievements and trends are then reported to EM HQ, which reports to the Assistant Secretary, who sets priorities for action and funding. The personal interest of the Assistant Secretary elevates the importance of safety performance at all levels. 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. The CBFO staff and the Carlsbad

Technical Assistance Contractor (CTAC) provides expertise to field activities to assist in technical issues and to measure progress.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO assures its performance through robust, frequent, and independent oversight activities, conducted at all levels of the organization. Performance assurance includes independent evaluation of performance indicators and trend analysis. A mix of internal and external oversight reviews reflects an integrated and balanced approach.
- CBFO management throughout the organization sets an example for safety through their direct involvement in oversight activities and associated performance improvement. Performance improvement receives adequate and timely attention.
- Periodic ISM reviews, assessments, and verifications are conducted and used as a basis for ISM program adjustments and implementation improvements.
- CBFO management is periodically briefed on results of oversight group activities to gain insight into organizational performance and to direct needed corrective actions.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Financial Management
- Engineering and Technology Program
- Project Management System
- Human Resources Management System
- Policy Development
- Safety and Health Management
- Acquisition Services and Procedures
- Assessment and Oversight Program
- Waste Management Systems

System Policies and Procedures

- DOE O 413.3, Change 1, *Program and Project Management for the Acquisition of Capital Assets*.
- 10 CFR 851, *Worker Safety and Health*
- Correct determination of List A/List B requirements, DEAR contract clause 970.5204
- 10 CFR 830 *Nuclear Safety Management*
- 29 CFR 1910, *Occupational Safety and Health Standards for General Industry*
- 29 CFR 1960, *Department of Labor safety regulations*.
- DOE O 440.1B, *Worker Protection Management for DOE Federal Employees*.
- DOE O 450.1, *Environmental Protection Program*

Performance Measures and Commitments

- The CBFO Assessment Schedule tracks the organizations and types of assessments (e.g., QA audits, assessments, and surveillances of WIPP programmatic activities), which include internal and external oversight organizations.
- The annual review of ISM identifies program strengths and weaknesses and tracks corrective actions to timely completion.
- CBFO management keeps up-to-date on the status of leading and lagging indicators of its oversight activities.

6.1.11 Principle 11: Organizational Learning for Performance Improvement

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

Performance monitoring is a cornerstone of performance improvement at WIPP. Information reported to EM and independently gathered by EM is analyzed to discover both trends in performance excellence and emerging problems at WIPP. Analyses and summaries are shared throughout EM via bulletins, emails, conference calls and newsletters. Lessons learned are written up and posted for others to learn. CBFO encourages open communication and provides numerous opportunities for employees to share information and concerns. CBFO supports DOE Operations Experience Order 210.2. Information gathered from CBFO on achievements and lessons learned is shared throughout EM in quarterly reviews.

Performance Objectives, Measures, and Commitments

Objectives and Attributes

- CBFO actively and systematically monitors performance through multiple means, including 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.
- CBFO management is actively involved in all phases of performance monitoring, problem analysis, solution planning, and solution implementation to resolve safety issues.
- CBFO establishes processes to identify and resolve latent organizational weaknesses that can aggravate relatively minor events if not corrected.
- CBFO employees convene to determine lessons learned and learn from experience throughout EM.

Functional Areas Incorporating CBFO Management System to Achieve Objectives and Attributes

- Engineering and Technology Program
- Safety and Health Management
- Project Management System

System Policies and Procedures

- DOE O 413.3-1, Change 1, *Program and Project Management for the Acquisition of Capital Assets*.
- DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*.
- 10 CFR 830, *Nuclear Safety Management*
- 10 CFR 851, *Worker Safety and Health*
- DOE/CBFO 03-3293, *CBFO Project Execution Plan*

Performance Measures and Commitments

- Implement project management best practices to maintain scope, schedule, and cost focused on safe, quality performance of the project's TRU waste activities.
- Ensure that work planning is implemented with an integrated project approach.
- Be responsive to feedback on the planning and performance of work.
- Ensure that a formal program of self-assessments supports organizational learning.

6.2 Implementation of the Five Core Functions

DOE P 450.4, *DOE Safety Management System Policy*, 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. CBFO has integrated the five core functions with its 11 ISM principles. As such, the attributes, applicable management systems and POMCs 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 CBFO management approach for each core function.

Work Planning and Control (WP/C) within CBFO is patterned after the ISM core functions at an activity level. All types of hazards, including industrial hazards, are typically identified using an activity level hazard analysis and appropriate controls established and implemented via work packages. The WP/C process, along with feedback/improvement typically discussed at post job briefings, is very much in alignment with the ISM core functions. CBFO is directly involved in developing or implementing this level of detail because this process is at the site contractor and/or facility representative levels. At the facility level safety basis (e.g., Documented Safety Analysis per 10 CFR 830) EM HQ has approval authorities for WIPP. CBFO also includes the effectiveness of Work Planning and Control processes as part of our ISM oversight assessment scope.

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.

Strategic planning is the first step in defining work scope. ISMS is a process to confirm adequate preparation, including adequacy of controls, prior to authorizing all work to begin at the facility, project, or activity level. These conditions and requirements are included in the contract and

Applicable Guiding Principle:

Balanced Priorities

are therefore binding upon the contractor. DOE HQ maintains a five-year plan for EM, http://www.em.doe.gov/pdfs/EM_FYP_Final_3-6-06.pdf to establish goals and direction for all work. In addition, EM develops an annual plan. The DOE strategic plan defines strategic goals and objectives for its business line. EM translates the strategic plan into definable work scope, both nuclear and non-nuclear, and provides strategic and out-year planning guidance to CBFO for integration into contractor work performance. For effective planning, strategic development and updates are aligned with the budget formulation and execution cycle.

DOE/CBFO 03-3293, *CBFO Program Execution Plan*, and CBFO-95-1122, *Programmatic Change Control*, also define the formal processes for changing work scope. The EM project measurements performance baseline serves as the CBFO execution document for each fiscal year’s work. The change control process also ensures that the baseline is not changed unless associated with a change of scope.

The baseline defines work scope, schedules (milestones), POMCs, and carryover, as well as new encumbrances and resources (estimated manpower and costs) for the fiscal year. The baseline, as the execution document, is also a collection point for all fiscal year POMCs and milestones from program-specific planning documents.

Figure 4 shows how the core functions integrate with the ISM principles for work scope definition.

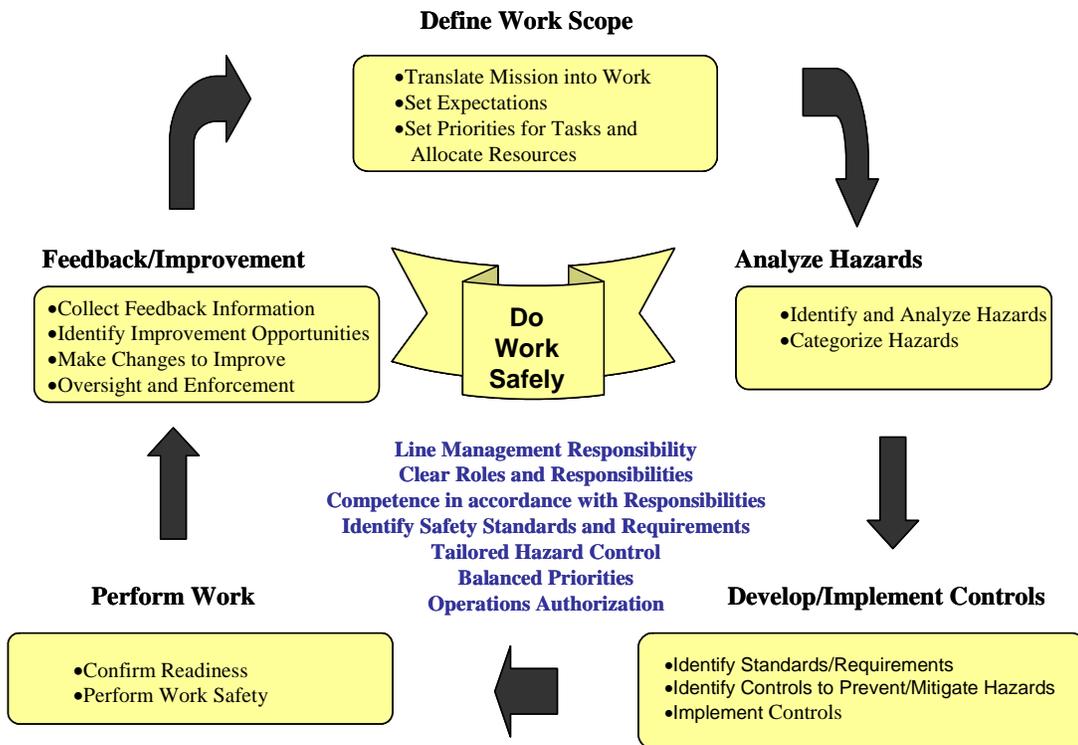


Figure 4. Core Functions and Applicable Principles

The performance measurement baseline consists of technical, scope, and related cost estimates as established in the project baseline. The technical requirements and objectives are used to develop the technical baseline, including work scope. The cost baseline represents estimates, units, and dollars required to accomplish the technical work scope. The schedule baseline provides a set of time-phased, logic-driven activities that incorporate the work scope as constrained to cost. This baseline is the starting

point for any subsequent baseline change management and is modified only through a formal, documented process.

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.

Applicable Guiding Principle:

Competence

Safety analysis is the documented process that includes systematic identification and assessment of hazards posed by a nuclear facility or operation for the protection of workers, the public and the environment. CBFO personnel ensure the review of facility safety documentation is complete, including hazards analyses, facility classifications, unreviewed safety questions (USQs), and structures, systems, and components classifications. EM issues SERs documenting review of contractor safety revisions and the basis for approving authorization basis documents. CBFO continuously monitors and assesses contractor processes for identifying, analyzing, and categorizing facility and activity hazards. CBFO oversees the technical baseline (as defined in the contractor project baseline plans) for all facility process and safety systems and conducts surveillances on contractor engineering organizations in support of operations.

This ensures that safety documentation accurately reflects the plant/system technical basis and that required safety evaluations are performed. CBFO oversees test plans and test procedures to ensure they accurately reflect plant configuration and ensure that test acceptance personnel evaluate the performance of contractor engineering organizations as part of operations support. CBFO review and approval of the DSAs requires development of a SER, which is reviewed and approved by EM-HQ.

CBFO uses an order compliance approach in accordance with management procedures to establish the level of hazard analysis and documentation required for WIPP work activities. Responsibility for development and approval of an auditable hazard analysis rests with the site management and operating contractor. CBFO is responsible to ensure that the contractor establishes the requirement to use an ISM-based process to develop the design and construction authorization basis. The contractor is required to: (1) define its processes, (2) identify the hazards associated with the defined processes, (3) develop control mechanisms to mitigate the hazards, and (4) define standards to implement the control mechanisms. The contractor submits its analysis and proposed standards to the CBFO line organization for approval.

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 independently verified and reviewed is fundamental to CBFO's approach to develop and implement hazard controls. Before work is performed, the associated hazards are evaluated and site management and the operating contractor agree upon a set of ES&H 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.

Applicable Guiding Principle:

Identification of Safety Standards and Tailor Hazard Controls to Work

The authorization agreement contains key terms and conditions (controls and commitments) under which the contractor is authorized to perform work. Any changes to these terms and conditions require CBFO approval. Authorization agreements are required for all CBFO activities. Authorization agreements are developed in conjunction with startup (or restart) approval by DOE, approval of authorization basis documents by DOE, or any other direction provided to the contractor that alters the scope of operations, special terms, or conditions specified by CBFO.

The authorization basis (or safety basis) consists of the facility design basis and operational requirements that CBFO relies on to authorize operation, and is described in documents, such as the DSAs, other safety analyses, hazard classification documents, technical safety requirement (TSR), SERs, and other facility-specific commitments made to ensure compliance with DOE Orders, rules, or policies.

TSRs are important authorization basis documents which define the conditions, safe boundaries, and the management or administrative controls necessary to ensure the safe operation of a 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. TSRs include safety limits, operating limits, surveillance requirements, administrative controls, use and application instructions, and their bases, in support of the DSA. The TSR constitutes a contract between CBFO and the facility operating management regarding the safe operation of the facility.

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. Inherent in an activity resulting in a USQ is the need for additional controls to be approved by CBFO, necessitating a change to the facility authorization basis. CBFO oversight of the contractor's USQ program ensures the authorization basis approved by DOE remains current and provides adequate level of protection to workers, the public, and the environment.

The hazard controls process is shown in Figure 5.

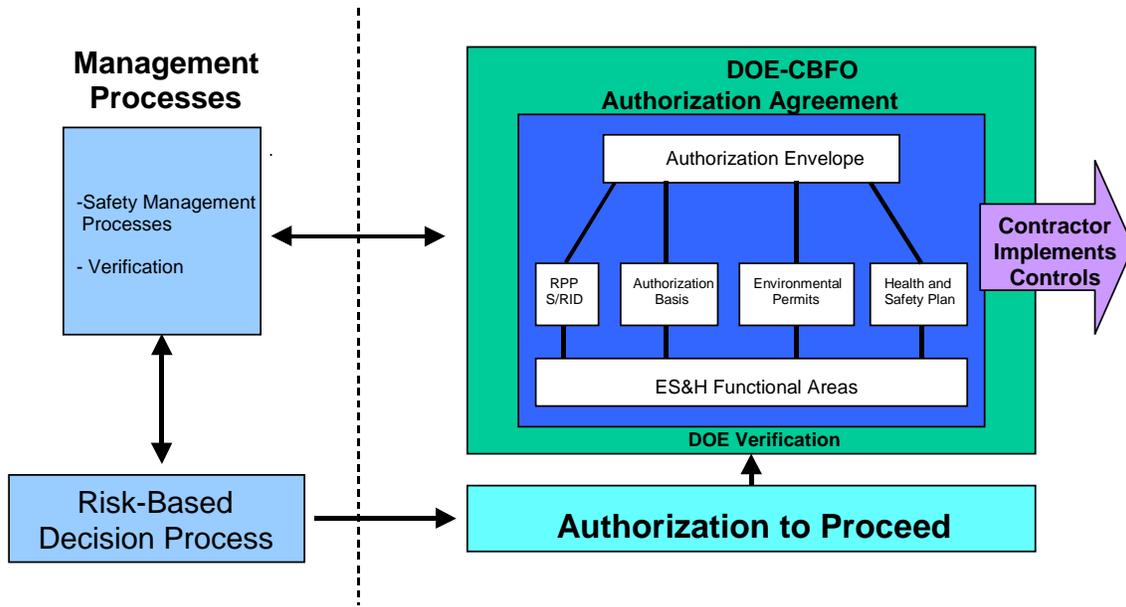


Figure 5. CBFO Hazard Control Process

Verification of controls is the responsibility of the CBFO oversight programs. Through assessments, CBFO routinely conducts field verification of controls. Verification of controls is also a routine element of the CBFO facility representative master assessment plan through surveillances and performance assessments.

CBFO has implemented a systematic approach to managing programmatic risks (i.e., risks with respect to cost, schedule, and technical performance). This approach is dependent on the establishment of an integrated risk management process. The integrated program allows for the top-down/bottom-up flow of risk data and information. A byproduct of this process is DOE/CBFO 03-3292, *CBFO Risk Management Plan*. The overall objective of risk management and risk assessment is to understand the risks associated with WIPP projects, and managing them with effective decision-making outcomes. The CBFO risk assessment process includes:

- Assessing project risks using a structured process, and developing strategies to manage risks throughout each acquisition phase.
- Identifying early and intensively-managed design parameters that critically affect cost, capability, or readiness.
- Using technology demonstrations/modeling/simulation and aggressive prototyping to reduce risks.
- Using test and evaluation as a means of quantifying the results of the risk handling process.
- Including industry and user participation in risk management.
- Using developmental test and evaluation when appropriate.
- Establishing a series of “risk assessment reviews” to evaluate the effectiveness of risk handling against clearly defined success criteria.

6.2.4 Core Function 4: Perform Work within Controls

Readiness is confirmed and work is performed safely.

CBFO's mission is to provide leadership, direction, and oversight to ensure site programs, operations, and resources are managed in an open, safe, environmentally sound, and cost-effective manner. DOE P 226.1, *Department of Energy Oversight Policy*, requires that the CBFO maintain operational awareness through planned assessments. The CBFO assessment process meets the requirements of DOE P 226. 1. The essential elements of the integrated assessment program are:

- Perform annual assessments of all key systems and programs;
- Strategically plan and schedule assessments to ensure the appropriate areas are being evaluated;
- Schedule the assessments formally and before the fiscal year begins;
- Status progress against the schedule;
- Measure progress on current assessments against prior assessments;
- Document and track all issues and findings;
- Coordinate corrective actions and track to satisfactory closure;
- Perform self-assessments on CBFO systems, processes, and programs; determine the effectiveness of the CBFO systems and incorporate corrective actions where required.

Independent oversight processes are performed by DOE organizations that do not have line management responsibility for the activity. CBFO is open to suggestions and critiques from external organizations which can help us improve our operations.

CBFO technical staff performs assessments of the contractor performance to ascertain facility and program status, determine whether implementation of requirements is effective, and evaluate the effectiveness of the contractor's self-assessment program. A technical assessment is defined as an evaluation of performance based on awareness of work activities, data analysis, and a comparison with the results of the contractor's self-assessment. The CBFO assessment plan categorizes assessments by functional area/system, program, organization, and assessment type. CBFO technical assessments are performance based, focusing heavily on results and effectiveness in addition to ascertaining compliance with requirements.

CBFO has a stop work authority at its facilities, in accordance with DOE P 450.7, *Department of Energy Environment, Safety and Health Goals*. This places responsibility and authority on every DOE employee to stop work immediately, without the fear of reprisal, when they are convinced a situation exists that places them, their coworker(s), or the environment in danger. "Stop Work" is defined as 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.

Applicable Guiding Principle:

Tailor Hazards Controls to Work and Operations Authorization

Applicable Guiding Principle:

Operations Authorization

CBFO promotes the following ten primary mechanisms to project evaluation and for stimulating continuous improvement:

1. A management culture which encourages an inquisitive attitude and insistence for improving business practices
2. A proactive facility representative program
3. A disciplined approach to planning, scheduling, and performing the appropriate assessments each year
4. Monthly project management reviews
5. Use of a formal issues management and corrective action tracking system to track progress
6. An integrated lessons learned program
7. Alternative and safe channels for employees to voice a concern or differing opinion on a project activity
8. Ongoing reviews
9. Price-Anderson Amendments Act and worker safety and health self-identification of issues and violations
10. Semi-annual contract performance reviews

In accordance with DOE P 226.1, CBFO provides information to EM HQ to demonstrate that these mechanisms exist to obtain and communicate feedback on CBFO and contractor activities. EM facility representatives observe facility operations and provide real-time informal and formally documented feedback related to facility operations and program implementation. Facility technical specialists and site technical specialists conduct technical assessments of activities under their cognizance; assessments serve as a formally documented source of feedback to the contractor. Technical assessments include evaluation of any applicable contractor self-assessments.

Management walk-throughs provide another perspective on facility operations and program implementation. Special CBFO assessments, including readiness assessments, operational readiness reviews, and authorization basis document reviews also evaluate contractor performance and are sources of feedback information.

Other activities, ranging from surveillances and document reviews to task team participation, may serve as feedback sources. Regular monthly meetings with contractor counterparts are important feedback sources. Key performance feedback is provided by CBFO as part of the formal contractor award fee and performance evaluation process. The amount of award fee the contractor earns at the end of a rating period is determined after due consideration of performance and feedback for the period. Contractors are encouraged to self identify and report problems and may reduce fines and penalties in certain areas if they do so (for example, Price-Anderson Amendments Act activities).

Effective and timely feedback is critical to identification of improvement opportunities. In addition to the CBFO feedback mechanisms discussed above, the contractor's Lessons Learned/ Operating Experience program sorts and screens lessons learned pertaining to the operation of WIPP, as well as other sites in the DOE complex. CBFO line and program offices continually look for ways to improve contractor and DOE activities as part of the daily conduct of business. CBFO personnel observe and participate in contractor critiques. Technical assessments and other evaluations of the contractor usually reveal opportunities for improvements, and committees that cut across organizational lines help disseminate information.

Continuous improvement requires action in areas where feedback has been provided and opportunities for improvement have been identified. Specific direction to the contractor is given in accordance with contract provisions. Management direction and/or a change in procedure is used to effect change within CBFO. Changes made in response to an outside review are usually logged and tracked to closure, with a specific organization assigned the responsibility.

In addition to the elements discussed under Core Function 4, DOE P 450.5 also defines DOE field office oversight responsibility to include reviewing performance against formally established Environment, Safety, and Health (ES&H) POMCs. In accomplishing CBFO's oversight function, cognizant CBFO staff review contractor performance against formally established ES&H POMCs and criteria set forth in procedures and guidance for specific programs and activities, such as emergency drill/exercise evaluations, oversight of contractor training and qualification program activities, fire protection, radiation protection, environmental protection, and natural phenomena hazards mitigation. CBFO also uses information on reportable events, which is documented and tracked in the Occurrence Reporting and Processing System (ORPS) to identify trends and to assess corrective action effectiveness.

CBFO believes investigating, understanding, and responding to employee concerns provides a valuable tool to improve safety, the work environment and productivity at WIPP. Employee concerns are most efficiently resolved when the employee resolves its concerns at the local level with its employer. When the employee cannot achieve resolution with its employer or has a concern regarding retaliation, intimidation or harassment, the CBFO expects the employee to come forward to effect a resolution process.

7.0 INTEGRATION OF EMS, QA, AND ISSM INTO ISM

DOE Order 450.1, Environmental Protection Program, establishes EMS requirements for Federal and contractor components. Federal EMS requirements are implemented through integration into the Federal ISM System Description, DOE M 450.4-1. The correlation of the EMS, QA, and Integrated Safeguards and Security Management (ISSM) components to the ISM principles and core functions is shown in Table 2.

7.1 Environmental Management System (EMS)

CBFO is a good steward of the environment. To implement sound stewardship practices that protect the air, water, and land, CBFO enforces the responsibilities and requirements of DOE O 450.1, *Environmental Protection Program*, for itself and its contractors. The EMS is implemented to ensure environmental protection actions and measures are integrated into all work planning and performance. This is accomplished effectively by integrating EMS requirements into ISMS (see Table 2).

EMS is part of CBFO's overall ISMS approach for achieving workplace safety and environmental protection. EMS provides a systematic management process for identifying and addressing environmental consequences of an CBFO 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.

Table 2. Correlation of EMS, QA, and ISSM to ISM

ISMS Guiding Principles	Supplemental High Reliability Principles	ISM Core Functions	Quality Assurance Criterion	EMS Objectives	ISSM Components	
1. Line Management Responsibility	1. Highly-Reliable Operational Performance	All Five Core Functions	Quality Assurance Program	<ul style="list-style-type: none"> • Policy, Planning, Implementation and Operation 	2. Line Management Responsibility	
2. Clear Roles and Responsibilities	2. Individual Attitude and Responsibility		Personnel Training and Qualifications		3. Clear Roles and Responsibilities	
3. Competence to Perform Responsibilities					1. Individual Responsibility and Participation 4. Competence	
4. Balanced Priorities	3. Performance Assurance	1. Define Scope of Work	<ul style="list-style-type: none"> • Work Processes • Documents and Records • Design • Procurement 	<ul style="list-style-type: none"> • Permitting 	5. Balanced Priorities	
5 Identification of Safety Standards 6. Tailor Hazard Controls to Work		2. Identify and Analyze Hazards			<ul style="list-style-type: none"> • Public Health and Environmental Protection • Pollution Prevention 	6. Identification of Safeguards and Security Standards and Requirements 7. Tailoring of Protection Strategies to Work Being Performed
7. Operations Authorization		3. Develop and Implement Hazard Controls				
	4. Organizational Performance Improvement	4. Perform Work Within Controls	<ul style="list-style-type: none"> • Quality Improvement • Inspection and Acceptance • Management Assessment • Independent Assessment 			
		5. Feedback and Continuous Improvement				

Programmatic components of EMS include:

- Permit Management
- Pollution Prevention
- Environmental Compliance
- Environmental Oversight
- National Environmental Policy Administration (NEPA) Analysis
- Radiation Protection and Radioactive Waste Management
- Watershed Management
- Cultural Resource Management

Through the implementation of EMS, CBFO ensures environmental management considerations are fundamental and integral components of the organization, ISMS, and contractor management. The integration of EMS into ISMS also ensures that the requirements from DOE O 450.1, *Environmental Protection Program*, are met. CBFO reviews and evaluates prime contractor implementation of EMS into their ISMS programs.

7.2 Quality Assurance (QA)

CBFO is committed to quality of all mission results and the elimination of errors. The CBFO QAPD describes the method by which quality assurance is implemented into ISMS and the overall work processes (see Table 2).

CBFO is committed to achieving quality in accordance with the “Quality Assurance Rule” (10 CFR 830, Subpart A), 40 CFR 194.22(a), and DOE O 414.1C, *Quality Assurance*, by having a comprehensive QAPD in place. The QAPD identifies those requirements and actions which are implemented to achieve this result.

The CBFO QAPD places accountability for quality on each employee. In addition, it emphasizes the creation of an environment for resolving quality problems rapidly and an attitude of constant improvement. DOE has 10 criteria for quality assurance:

- 1) Establish an organizational structure, functional responsibilities, levels of authority, and interfaces for management, performance, and assessment of work. Establish management systems for planning work and resource allocation.
- 2) Train and qualify personnel to be capable of performing assigned work.
- 3) Establish and implement processes to detect and prevent quality problems. Identify the causes of problems and include prevention of recurrence as a part of corrective action planning.
- 4) Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design. Specify, prepare, review, approve, and maintain records.
- 5) Perform work consistent with technical standards, administrative controls, and hazard controls adopted to meet regulatory or contract requirements using approved instructions and procedures.
- 6) Design items and processes using sound engineering/scientific principles and appropriate standards. Verify/validate work before approval and implementation of the design.
- 7) Procure items and services that meet established requirements and perform as specified. Evaluate and select prospective suppliers on the basis of specified criteria.
- 8) Inspect and test specified items, services, and processes using established acceptance and performance criteria.
- 9) Managers assess their management processes to identify and correct problems that hinder the organization from achieving its objectives.
- 10) Plan and conduct independent assessments to measure item and service quality and the adequacy of work performance and to promote improvement.

7.3 Integrated Safeguards and Security Management (ISSM)

Integrated Safeguards and Security Management (ISSM) implements the sustained execution of security expectations at WIPP. ISM and ISSM are complementary management systems based upon the same principles and core functions (see Table 2). 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, the contractor is held accountable to ensure that management of safeguards and security functions and activities become an integral and visible part of CBFO's work planning and execution processes.

The purpose of DOE Policy 470.1, *Integrated Safeguards and Security Management (ISSM) Policy*, is to formalize an ISSM 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 DOE directives and contracts.

The objective of the CBFO ISSM Program is to provide the necessary and appropriate protection at WIPP for nuclear material, information, personnel, and property. Operational security at WIPP is evaluated for effectiveness and managed under the following subprograms:

- Program Management
- Information Security
- Materials Control and Accountability
- Personnel Security
- Cybersecurity

8.0 STATUS OF INTEGRATION

8.1 Integration Levels, Gaps, and Vulnerabilities Analysis

Strengths

The integration of QA, the EMS, and the ISSM is documented in CBFO's ISMSD, noting the interrelationships and coordinating implementation documents, all of which are directly reflected in CBFO's regular administrative and operational oversight responsibilities and activities.

Weaknesses

The Emergency Management System is in need of strengthening in its process identification and implementation, with the goal of effective institutionalization into the ISMS.

8.2 Management Systems to be Established/Strengthened

The WIPP Emergency Management System is an integral part of the ISSM system and is in the process of being integrated into the overall ISMS program at WIPP. The ISMS interfaces are being identified, acknowledged and articulated without losing or subsuming the main purpose and functions of EMS and ISSM. Strengthening of process identification and implementation is ongoing, with the goal of a seamless institutionalization of the EMS into ISMS wherein it will be coordinated, linked, and integrated to an optimal state.

8.3 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 CBFO and contractor employees. As directives change and are amended, the GET material is updated and employees are notified of the changes.

8.4 Contributing Organizations and ISM System Interface/Coordination

ISM principles and functions are expected to be contractually integrated into all business systems by the contractor and with all of its subcontractors.

8.5 Initiatives to Improve Safety and Promote a Positive Safety Culture at WIPP

The CBFO adopts, and encourages the contractor to implement, the principles and functions of a variety of processes and initiatives aimed at improving organizational and individual performance. A list of performance of improvement programs or processes implemented by the contractor follow:

- Human Performance Improvement (HPI)
- Voluntary Protection Program (VPP)
- Conduct of Operations
- Conservative decision making
- ASME Standard NQA-1, QA Requirements for Nuclear Facility Applications

All of these 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.

8.6 Expected Attributes and Results of the CBFO ISM System

The expected attributes of the CBFO ISM are taken directly from the DOE expectations identified in DOE G 450.3-2, *Attributes of Effective Implementation*. CBFO's intent, however, is to permit different approaches to implementing mechanisms while ensuring that the set of ISM core values is integrated with performance.

Attributes of Effective Implementation

- Planning, performance, and assessment are focused on the work.
- ES&H standards are integrated with other expectations for the work.
- Line ownership of ES&H is evident.
- Worker ownership, confidence, and job satisfaction are evident.

- DOE and contractor line management provide tangible evidence of commitment to implementation of agreed-upon standards.
- Workers know and understand operational and strategic objectives.
- Management and workers promote compatibility between individual motives and institutional norms.
- Workers have timely participation in work planning.
- Work planning is carried out with an integrated project approach.
- Work planning and work controls are based on collective knowledge.
- Information necessary for work planning and performance is reliable, readily available, and communicated with appropriate tools & methods.
- Training and qualification of workers support reliance on judgment and expertise.
- Workers know, understand, and believe in agreed-upon standards.
- Managers do not allow worker ownership without informed acceptance.
- Work is conducted in accordance with agreed-upon work controls.
- Performance work is based on worker knowledge and ownership.
- A formal program of self-assessment support organizational learning.
- Assessment criteria are developed during work planning.
- Assessment criteria are based on agreed-upon expectations.
- Cost effectiveness is one measure of performance.
- Planning & performance of work are responsive to feedback.

Expected results of the tailored CBFO ISMS are consonant with intent, as defined by attribute evidence identified in DOE G 450.3-2, above. Results are documented in the CBFO Annual Review of ISM.

8.7 ISM System Description Maintenance and Continuous Improvement

CBFO will update the ISMSD at least annually and continue to monitor the ISMS processes. Processes will be monitored for adequacy, implementation, and effectiveness in line with CBFO QA operational expectations. Continuous improvement of the ISMSD will result in the elimination of waste in process steps, optimal integration of ISMS principles and functions into CBFO documents, and feedback provided for use in lessons learned. Continuous improvement should ensure a robust ISMS in accord with QA principles.

8.8 ISM Annual Oversight, Self-Assessments, Annual Effectiveness Reviews, and Annual Declarations

The CBFO ISM annual oversight review aligns with the following directives and documents:

- 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 O 440.1B, *Worker Protection Program for DOE Federal Employees*

- DOE G 450.3-2, *Attributes of Effective Implementation*
- DOE G 450.4, *Tailoring for Integrated Safety Management Applications*
- DOE/WIPP 98-2287, *Safety Management Functions, Responsibilities, and Authorities Manual (FRAM)*

CBFO ISM self-assessments are done in consonance with the directives listed above, with a view toward the effective interface and integration between the CBFO ISM System and the contractor's ISMS. Self assessments are executed throughout the year by a series of planned management assessments of the WIPP's operational and administrative oversight processes in accordance with the following directives and documents:

- DOE P 226.1, *Department of Energy Oversight Policy*
- DOE O 226.1, *Implementation of Department of Energy Oversight Policy*
- DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*
- DOE/CBFO 94-1051, *Quality Assurance Program Document*

Annual effectiveness reviews are done to assess the overall state of CBFO's ISMS, to identify opportunities for improvement and corrective action, and to document lessons learned for training and communication to CBFO and contractor employees. 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, and
- 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.

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

8.9 ISM Annual Safety Performance Objectives, Measures and Commitments Process

The process steps for the ISM annual safety performance objectives, measures, and commitments include the following:

- The CBFO FRAM is updated as necessary.
- CBFO management ensures acquisitions incorporate relevant safety requirements.
- Annually update the CBFO ISMSD.
- Individual Performance Plans (IPPs), Individual Development Plans (IDPs), and Position Descriptions (PDs) are reviewed and revised annually.
- Employee training is completed on schedule.

- Delegations of authority are reviewed (as necessary).
- CBFO management adjusts budget priorities to address safety concerns (as necessary).
- CBFO work is completed per planned commitments.

Appendix A. CBFO Safety Performance, Objectives, Measures, and Commitments (POMCs)

Indices are established for each topical area based on historical performance and future expectations for improvement. CBFO expects each organizational group to surpass the established index.

Management System	Performance Measures	Responsibility	Status
Project Management System	<ul style="list-style-type: none"> Work scope priorities are defined and communicated to contractors annually to guide work planning 	Manager of Operations	On schedule
	<ul style="list-style-type: none"> CBFO periodic meetings with an emphasis on safety 	FEOSH Committee and All Hands	Ongoing
Assessment and Oversight Program	<ul style="list-style-type: none"> Assessment and Oversight Schedule is issued annually 	Site Operations Office Director	Complete
	<ul style="list-style-type: none"> CBFO completes annually planned assessments 	All	Periodically assessed in the I.E.P.
Management Walk-Through Program	<ul style="list-style-type: none"> CBFO line managers regularly perform workplace walk-downs 	Assistant Manager for Operations	Ongoing.
CBFO FRAM	<ul style="list-style-type: none"> CBFO FRAM is updated annually and submitted to EM-1 	ABSTA	FRAM approved for FY07
Human Resource Management/Employee Training and Development	<ul style="list-style-type: none"> Individual development plans (IDP) and performance plans are reviewed and revised annually` Employee training is completed annually. 	All	IDPs and performance plans complete.
Federal Technical Capability Program	<ul style="list-style-type: none"> Issue the updated Technical Qualifications Program Plan annually 	ABSTA	Ongoing
Minority/Differing Professional Opinion	<ul style="list-style-type: none"> The CBFO Minority/Differing Professional Opinion procedure is in place FY2008 and executed 	Deputy Manager	On track
Budget Request Process	<ul style="list-style-type: none"> Submit the project baseline budget request to EM-1 per their annual guidance schedule 	Office of Business	Complete

Management System	Performance Measures	Responsibility	Status
Performance and Recognition Program	• Employees plan, prepare, and sign performance plans each fiscal year	All	Ongoing
	• Employee appraisals completed annually following year after performance plans	All	Completed for October 31, 2007
	• Management recognizes individual special performance through awards	All	Ongoing
Safety Basis and Authorization Basis Management	• Safety basis documents reviewed and approved annually.	ABSTA	Ongoing
ISMS	• Review and approve contractor ISM System Description and proposed performance measures annually.	CBFO Assistant Manager for Operations	POMCs will be submitted in October 2007
	• Annually self-assess the CBFO ISM System Description and incorporate corrective actions.	CBFO Assistant Manager for Operations	On track
	• 2007 CBFO ISM System Description due to EM September 2007	CBFO Assistant Manager for Operations	On track
ISMS Annual Declaration Process	• CBFO ISMS Annual Declaration Readiness Report is issued annually	CBFO Assistant Manager for Operations	On track
	• ISMS corrective actions are addressed and promptly closed as they are identified	CBFO Assistant Manager for Operations	All are complete for FY07
Operating and Construction Agreements	• CBFO Operating and Construction Agreements are updated as necessary to ensure requirements and project information is current	Contracting Officer	Ongoing
Security	• Zero security infractions for CBFO Federal staff in a fiscal year	CBFO Security Director	Zero
Safety and Health	• Zero CBFO Federal staff recordable accidents and injuries in a fiscal year	All	Ongoing.
Lessons Learned	• Distribute key lesson learned items to Federal staff as received.	ABSTA	Ongoing

Appendix B. References

CBFO-95-1122, *Programmatic Change Control Plan*

Correct determination of List A/List B requirements, DEAR contract clause 970.5204

DEAR 970.5204-2 (7), *DOE Management and Operating Contracts*

Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 95-2 to the Secretary of Energy, dated October 11, 1995

DOE/CBFO-94-1012, *Quality Assurance Program Document*

DOE/CBFO 94-1051, *Federal Employee Occupational Safety and Health Program*

DOE/CBFO 02-3219, *Technical Qualification Program*

DOE/CBFO 03-3292, *CBFO Risk Management Plan*

DOE/CBFO 03-3293, *CBFO Program Execution Plan*

DOE/CBFO 04-3293, *CBFO Program Execution Plan*

DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*

DOE/CBFO Contract DE-AC29-01AL66444

DOE/CBFO ISMS Authorization Agreement

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

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

DOE G 450.4-1B, *Integrated Safety Management System Guide for use with Safety Management System Policies*

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

DOE M 411.1-1C, *Safety Management and Functions, Responsibilities, and Authorities Manual*

DOE/NTP – 96-1204 *National TRU Waste Management Plan*

DOE O 251.1B, *Departmental Directives Program*

DOE O 320.1 C1, *Acquiring and Positioning Human Resources*

DOE O 331.1B C1, *Employee Performance Management System*

DOE O 360.1B, *Federal Employee Training*

DOE O 413.3-1, Change 1, *Program and Project Management for the Acquisition of Capital Assets.*

DOE O 414.1C, *Quality Assurance*

DOE O 420.1B, *Facility Safety*

DOE O 425.1C, *Startup and Restart of Nuclear Facilities*

DOE O 430.1B, *Real Property Asset Management*

DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*

DOE O 440.1B *Worker Protection Management for DOE Federal Employees*

DOE O 450.1, Change 1, *Environmental Protection Program*

DOE P 226.1, *DOE Oversight Policy*

DOE P 450.4, *Safety Management System Policy*
DOE P 450.5, *Line Environment, Safety, and Health Oversight*
DOE P 450.7, *Department of Energy Environment, Safety and Health Goals*
DOE P 470.1, *Integrated Safeguards and Security Management (ISSM)*
DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses.*
DOE/WIPP 98-2287, *Safety Management Functions, Responsibilities, and Authorities Manual*
DOE/WIPP 04-3300, *WIPP Project Control System Description*
DOE/WIPP 04-3303, *WIPP Cost Estimating Guide*
MP 4.11, *Safety Basis Review Procedure*
MP 7.1, *QA Requirements for Procurement of Services, Current Revision*
NM 48909 399088-TSDF, *WIPP Hazardous Waste Facility Permit*
10 CFR 830, 835, 850 and 851 DOE Safety Regulations
10 CFR 851, Worker Safety and Health
29 CFR 1910, Occupational Safety and Health Standards for General Industry
29 CFR 1960, Department of Labor Safety Regulations
INPO, "Human Performance Fundamentals" December 2002